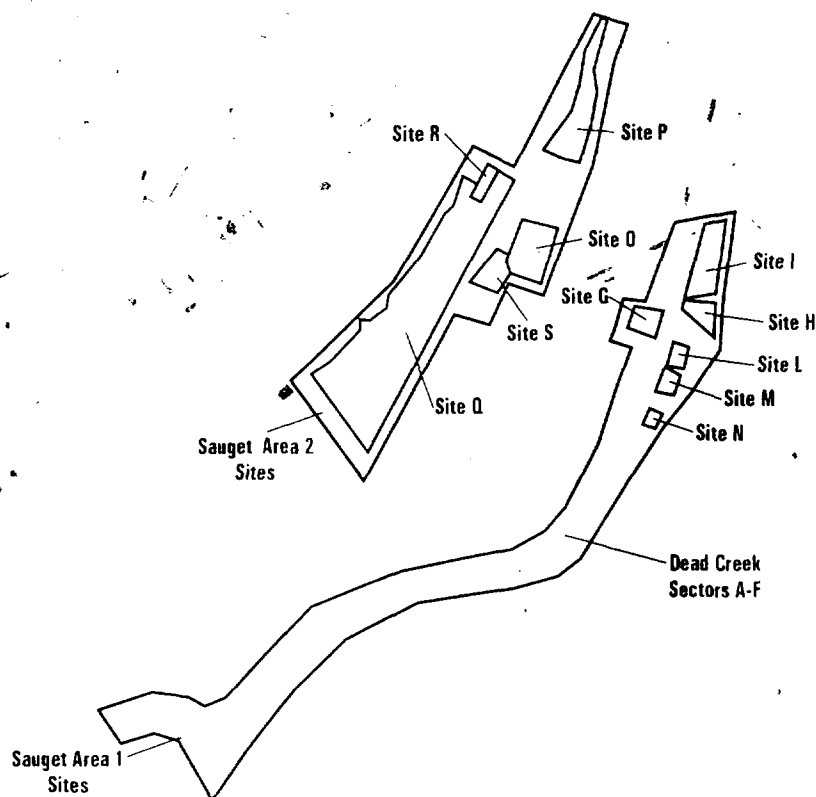


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# Sauget Area 1 and 2 Sites

St. Clair County, Illinois



## Volume 1 - Area 1 Data Tables/Maps

ARCS Contract No. 68-W8-0086

Work Assignment No. 47-5N60

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2/1/98

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**Volume 1  
Sauget Area 1  
Data Tables/Maps**

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ARCS Contract No. 68-W8-0086  
Work Assignment No. 47-5N60

**February 1998**

**Prepared for:**

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
Region 5  
Office of Superfund  
77 West Jackson Boulevard  
Chicago, Illinois 60604

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**ecology and environment, inc.**

International Specialists in the Environment

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Ecology and Environment, Inc. (E & E), was assigned by the United States Environmental Protection Agency (U.S. EPA) to provide Technical Assistance (TA) related to the Sauget Area 1 and 2 sites located in the villages of Sauget and Cahokia, St. Clair County, Illinois. All work was conducted under work assignment number 47-5N60, issued by U.S. EPA Region 5, under the Alternative Remedial Contracting Strategy (ARCS) contract number 68-W8-0086.

The objective of E & E's TA is to provide information to EPA for enforcement, cleanup oversight, and cost recovery efforts. Specifically, this work has involved compiling and summarizing existing technical and potentially responsible party (PRP) data for each subunit of the sites. This report provides technical data summary tables and maps for each of the Sauget sites along with other information compiled during E & E's file searches of various agencies and organizations. Under the task "Acquisition of Existing Information," E & E reviewed all available technical information concerning the Sauget Area 1 and 2 Sites in files at the agencies and organizations listed below:

- U.S. EPA Region 5 Offices in Chicago
  - 7th Floor Records Center
  - Office of Regional Counsel (ORC) Files
  - Working PRP Investigator Files
- Illinois Environmental Protection Agency (IEPA) Offices in Springfield
  - Freedom of Information Act (FOIA) Files
- Miscellaneous Federal Agencies
  - U.S. Fish and Wildlife Service
  - U.S. Food and Drug Administration
  - U.S. Department of Agriculture
  - U.S. Army Corps of Engineers

- Miscellaneous State and Local Agencies
  - Illinois Department of Public Health
  - Illinois Department of Transportation
  - St. Clair County
  - Village of Sauget and Fire Department
  - Village of Cahokia and Fire Department
  - East Side Health Department

E & E contacted the sources listed above by telephone to inquire about file materials, if any, that may be pertinent. File searches were scheduled and conducted at U.S. EPA, IEPA, and St. Clair County offices only. The other listed agencies and organizations indicated either that was no file information available, or that their files were included in the state or federal file system.

This report (Volumes 1 and 2) compiles the existing technical information and data for the Sauget sites. The report is organized as follows: Section 1 provides the introduction to the report and Section 2 describes the report organization in detail. Volume 1 of this report provides the technical data summary tables and maps for the Sauget Area 1 sites, and Volume 2 provides the technical data summary tables for the Sauget Area 2 sites.



This section describes the report organization and provides pertinent information for both Volumes 1 and 2. The report, Volumes 1 and 2, begins with introductory text (the Introduction, Section 1; and Report Organization, Section 2), followed by sections that supply details on the specific Sauget Area 1 or Area 2 sites. Volume 1 sections are broken out as follows:

- Sites G, H, and L,
- Site I and Creek Segment A (CS-A),
- Site M and CS-B,
- Site N and CS-C, CS-D, and CS-E,
- CS-F, and
- Area 1 Groundwater.

Volume 2 sections are broken out as follows:

- Site P,
- Sites O, Q, R, and S, and
- Area 2 Groundwater.

Each section tab is followed by an illustration of the site(s) covered in that section. Immediately following the figure are individual site narratives for each of the sites contained within the specific section (e.g., the Volume 1 section tab "Site I and CS-A" is followed by a figure showing Site I and CS-A, and then by individual Site Narratives for Site I and CS-A). The figures and site narratives within each section are followed by subtabs that include all the

technical data summary tables generated for each individual site. More detail on these elements is given below:

## Figures

E & E has developed site maps for areas within Sauget Area 1 and 2 based upon only pertinent features present on the respective United States Geological Survey (USGS) 7.5-minute topographic quadrangle. The specific site maps include the site locations, all historical sample locations from available file information, and tables showing selected contaminants from samples collected at those locations. Generally, every soil/sediment, waste, and surface water sample collected for a given site will be presented in table format on the map. There are, however, some exceptions to this presentation: 1) sampling locations may be presented where no chemical data were obtained or where the sample results were not located in the available file information; and 2) additional sample locations were discovered toward the end of the process of assembling this deliverable, and the new sample locations are presented on the map but the corresponding data for the samples are not included on the figure due to time constraints. In the second case, the analytical data are presented within the tabbed section of the report, but are not included on the map table. The maps for Area 1 and Area 2 groundwater will also differ from this presentation, in that data from only one representative sampling event from any given well were selected for presentation on the figure. Again, additional available groundwater data are provided in the body of each section.

The data presented on each map represent a summary of selected contaminants for each sample. Since the analyses performed varied for most of the sampling events, E & E, with concurrence of the U.S. EPA Work Assignment Manager (WAM), chose to present data for total volatile organic compounds (VOCs), base-neutral/acid extractables (BNAs), pesticides (Pest), and polychlorinated biphenyls (PCBs), along with selected metals and cyanide. The values presented represent the sum of the concentrations for all compounds analyzed within each parameter group regardless of numbers (e.g., the VOC value for one sample may represent analysis of only benzene, toluene, ethyl benzene, and xylene (BTEX) constituents, whereas another sample may represent a total of all compounds from a Target Compound List (TCL) VOC scan). The report tables do not generally distinguish the total number of compounds detected within each parameter group. It also should be noted that in order to not present data that potentially represent laboratory or method contamination, any result indicating that a compound was also detected in the blank sample was not included in the concentration presented on the figures. In addition, two VOCs (methylene chloride and

acetone) and certain BNAs (all phthalates) were not included in their respective totals because of the typical association of these compounds with laboratory and sampling method contamination. All data reported on the maps should be in milligrams per kilogram (mg/kg) for soils and sediments and in micrograms per liter ( $\mu\text{g/L}$ ) for all waters unless otherwise listed. Each data table presented on the maps also indicates the agency or company that collected the samples and the sampling date. A partial listing of acronyms that may be found on the tables is as follows:

- E & E—Ecology and Environment, Inc.,
- G & M—Geraghty & Miller,
- IEPA—Illinois Environmental Protection Agency, and
- U.S. EPA—United States Environmental Protection Agency.

The scales posted on each figure are approximate, as are many of the sample locations. The placement of the sample locations on each map was based on the file information description or map provided with that sample. Some locations are considered suspect due to very poor location descriptions in the file information.

## **Site Narratives**

The figures are followed in the report by individual site narratives. These narratives are in a table format, and provide a summary description of the available site information, the nature and extent of contamination, and any existing or constructed site containment features. Every sample location available for a given site is listed in the site narrative. In the case of the site narratives for groundwater, each sampling event is also provided in the narrative table. The sampling locations are followed by the name of the entity that collected the samples, the sampling date, and a file reference within the site narrative table.

Beneath the sampling information portion of the site narrative table is a brief summary of the nature and extent of contamination, a description of the site containment features and integrity, and any other pertinent comments about the site. The nature and extent of contamination section of the narrative table briefly summarizes the contamination data presented on the figures. The description of the source containment and integrity is based solely on review of available file information, and therefore may not be completely accurate

or current, The section of the table concerning other comments is typically used to reference an attached site description paragraph.

### **Technical Data Summary Tables**

E & E organized the technical data copied from the file searches into separate data summary tables for the Sauget Area 1 and Area 2 sites. These summary tables were further organized by subunits (Sites) within each area. In addition, technical data were organized to evaluate groundwater at each site. Extensive sources of data (such as some site R data from Monsanto) were too voluminous to transfer into E & E data summary tables. Therefore, such data are presented within this report in the original format copied during the file searches. Any recently discovered additional data are also included in the original table format copied from the file searches.

Following the data summary tables for each data set is a copy of the original file map (or location description) that details where the samples were collected. These sample maps and/or descriptions formed the basis for the sample locations that were placed on the site maps at the front of each section.

Site G, H and L



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# **SITE NARRATIVE**

## **SITE G**

SITE NARRATIVE - SAUGET AREA 1 / Site G			
Sample Locations	Sampling Entity	Date Sampled	Data Source
#1, #2, #3	IEPA	10/1/84	Individual Special Analysis forms
SS-01 thru SS-43	E & E	11/11/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
G-1 thru G-9	E & E	1/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
S-41, S-42	Weston	3/4/87	"Removal Action Plan for Dead Creek Sites" prepared for U.S. EPA by Weston-SPER, August 1987
WS-1, WS-2, WS-3 (aka#1) (aka#2) (aka#3)	IEPA	10/1/84	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
G-106, G-107	IEPA	10/1/84	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
X114,X115,X116	IEPA	11/11/94	Memo to M. Rebbe (IDPH) from P. Takacs (IEPA) dated 12/30/94 Re: November Sampling with maps and data
B-B1, B3	Geraghty & Miller	10/18/91	"Site Investigation for Dead Creek Sector B and Sites L and M" prepared for Monsanto Company by Geraghty & Miller, Inc., March 1992
<p>Nature and Extent of Contamination:</p> <p>VOC concentrations ranged from 0.004 to 709 mg/kg in 38 of 61 soil samples, BNAs ranged from 0.2 to 22,000 mg/kg in 35 of 61 samples, pesticides ranged from 0.03 to 135 mg/kg in 9 of 61 samples, and PCBs ranged from 0.13 to 74,000 mg/kg for 50 of 70 samples collected. The greatest concentrations in subsurface soils were detected at depths between 10 to 25 feet BGS. In addition, concentrations of VOCs and pesticides tended to be higher in the subsurface than in surface soils. The extent of contamination at Site G is very well defined given the numbers of surface and subsurface samples collected. Based upon the depths and thicknesses of waste observed in subsurface borings, a total volume of approximately 60,000 cubic yards of waste and contaminated fill is estimated to be present at Site G.</p>			
<p>Containment and Integrity (if known):</p> <p>Prior to 1995 there was no know containment for wastes at Site G. In 1994, the Sauget Fire Department (SFD) was called to the site on four separate occasions to extinguish fires. The cause of the fires was believed to be spontaneous combustion. Approximately 30,000 tons of clean soil was graded over the site during a removal action conducted by USEPA in 1995. Access is restricted via a security fence that was also installed by USEPA in 1995.</p>			
Other Comments: See the attached "Site Description" for more site details.			

## **SITE DESCRIPTION - Sauget Area 1/Site G**

Site G is roughly a 5 acre disposal area located in Sauget which operated from approximately 1952 until the late 1970's. The site is bordered by Queeny Ave. to the north, Dead Creek to the east, a cultivated field to the south, and by Wiese Engineering to the west. Prior to the removal action conducted by EPA in 1995, the site consisted of scattered corroded drums with some cinder/fly ash cover material with two pits filled with oily tar-like waste in the northeast portion of the site. In 1994, the Sauget Fire Department (SFD) was called to the site on four separate occasions to extinguish fires. The fires were thought to have started by spontaneous combustion. Boring logs from site G reveal 3 to 12 feet of fill material overlying 15 to 25 feet of waste. The maximum depth of waste was noted at 36 feet BGS. Based on the depths and thickness of the waste along with horizontal distances between borings, a total volume of approximately 60,000 cubic yards of waste and contaminated fill is estimated to be present in the subsurface at site G.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)



# **SITE NARRATIVE**

**SITE H**

### SITE NARRATIVE - SAUGET AREA 1 / Site H

Sample Locations	Sampling Entity	Date Sampled	Data Source
H-1 thru H-9	E & E	12/86-1/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
<b>Nature and Extent of Contamination:</b>  Contaminant concentrations in Site H soils are generally higher in the central and northern portions of the site when compared to results from the southern portion. VOCs ranged from 1 to 573 mg/kg in 8 of 11 samples collected, BNAs ranged from 0.1 to 59,177 mg/kg in 9 of 11 samples, pesticides averaged 1.6 mg/kg for two of 11 samples, and PCBs ranged from 0.2 to 18,000 mg/kg for 7 of 11 samples. The highest concentrations of contaminants were generally detected in samples collected from 10 to 25 feet BGS. The extent of contamination is only moderately well defined at Site H because only subsurface soil samples have been collected from this site, and samples were collected from only nine boring locations.			
<b>Containment and Integrity (if known):</b>  There is no known surface or subsurface containment in place at Site H. The surface of the site is grass covered, although some areas are sparsely vegetated with cinders and slag evident at the surface. Waste material was identified at depths below the water table in some borings. Access is unrestricted.			
<b>Other Comments:</b> See the attached "Site Description" for more site details.			

## **SITE DESCRIPTION - Sauget Area 1/Site H**

Site H is roughly a 5 to 7 acre disposal area located in Sauget which operated from approximately 1931 until 1957. The site, contiguous with Site I under Queeny Avenue is known collectively as the " Sauget-Monsanto Landfill". Site H is bordered by Queeny Avenue to the north, Falling Springs Road. to the east, and by the Metro Construction company to the west. There is no clear delineation of site H to the south, however, the landfill extends approximately 1,250 feet south of Queeny Avenue. Prior to the site's use as a landfill, the site was a series of sand and gravel borrow pits. According to two CERCLA (103[c]) forms submitted by Monsanto to USEPA, the site accepted chemical wastes from the Monsanto's Queeny and Krummrich plants in St. Louis and Sauget, respectively. Aerial photos show landfilling activities decreasing by the late 1950's. Site H is currently graded and sparsely vegetated with no waste materials present at the surface other than cinders and slag. Borings from site H reveal 2.5 to 13 feet of fill material across the site. The waste materials found in six of the eight borings completed consisted of multi-colored sludges, solids and oily refuse underlying the fill. A waste thickness of approximately 20 feet was noted in borings in the central portion of the site.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

# **SITE NARRATIVE**

**SITE L**

SITE NARRATIVE - SAUGET AREA 1 / Site L			
Sample Locations	Sampling Entity	Date Sampled	Data Source
DC-L1 thru DC-L4	E & E	12/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
X-1, X-2	IEPA	1/28/81	Individual Special Analysis forms from Microfiche
Samples L1 thru L5 from borings LB-10 thru LB-17	Geraghty & Miller	10/15/91 & 10/16/91	"Site Investigation for Dead Creek Sector B and Sites L and M" prepared for Monsanto Company by Geraghty & Miller, Inc., March 1992
<p><b>Nature and Extent of Contamination:</b></p> <p>VOC concentrations in soil samples from Site L ranged from 0.01 to 420 mg/kg for 10 of the 11 samples collected, BNAs ranged from 0.3 to 390 mg/kg for 9 of 11 samples, pesticides were not detected in any of the 5 samples analyzed, and PCBs ranged from 16 to 500 mg/kg in 2 of 7 samples. Contaminants were generally detected at depths ranging from 5 to 15 feet BGS. The extent of contamination is well defined both laterally and vertically for the main impoundment associated with Site L. A second, smaller impoundment, identified by photographs does not appear to have been located by sampling or investigated in any detail.</p>			
<p><b>Containment and Integrity (if known):</b></p> <p>There is no known surface or subsurface containment in place at Site L. The site consisted of unlined surface impoundments used for disposal of washwater from truck cleaning. The surface of the site is presently covered with cinder and slag. Access to the site is unrestricted.</p>			
<p><b>Other Comments:</b> See the attached "Site Description" for more site details.</p>			

## SITE DESCRIPTION - Sauget Area 1/Site L

Site L is the former location of two surface impoundments used by Waggoner Trucking and later by Ruan Trucking. The hazardous waste transporters used the impoundments approximately between the years of 1975 to 1981 to dispose of wash water from truck cleaning operations. The main impoundment was located 125 feet east of Dead Creek - Segment B and about 250 feet south of the present Metro Construction building. Historical aerial photos show the dimensions of the filled impoundment to be approximately 150 feet by 70 feet. A later inspection by Geraghty & Miller determined the impoundment to be approximately 165 feet by 35 feet. This area is now covered by black cinders and is used by Metro Construction for equipment storage. The second impoundment was identified in a historical aerial photo. This impoundment was located to the east of the main impoundment described above. IEPA has estimated the quantity of wash water disposed of at the site between 1971 and 1978 to be roughly 164,000, gallons assuming that Ruan Trucking operated at the same volume as Waggoner Trucking. Four borings conducted at the site indicate the main impoundment had a depth of approximately 8 feet, was not lined, and had a base of medium- to coarse-grained sands.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

**Site G Data**



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SAUGET Analytical Data  
Site G

Page 1 of 1

SEDIMENT SAMPLES  
Organic Compounds (µg/g unless otherwise noted)  
Collected by IEPA

Sample Number	1	2	3	Maximum
Date Collected	10/01/84	10/01/84	10/1/84	Detected
Organic Compounds				
Detection Limits/Units	400 µg/g	250 µg/l	10 µg/g	
0-Dichlorobenzene	ND	ND	ND	ND
Bis (2-chloroethyl)ether	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND
Isophrone	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Methylnaphthalene	ND	ND	ND	ND
Dimethylnaphthalene	ND	ND	ND	ND
Trimethylnaphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND
Pyrene	610	ND	ND	610
Benzidine	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND
3,3-Dichlorobenzidine	ND	ND	ND	ND
Chlorobenzene	NA	580	ND	580
2-Chlorophenol	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
Phenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Phenyl Indene	320	ND	ND	320
Dimethyl Phenanthrene	3100	ND	ND	3100
Trimethyl Phenanthrene	1400	ND	ND	1400
Aliphatic Hydrocarbons	14200	5230	ND	14200
Other Organic Compounds	1200(est)	400(est)	4070	4070
PCBs (µg/g)	<16	NA	18	18

µg/g - Micrograms per gram  
µg/L - Micrograms per liter  
NA - Parameter not analyzed  
ND - Not detected



**SAUGET Analytical Data  
Site G**

**SEDIMENT SAMPLES  
Heavy Metals  
Collected by IEPA**

	Sample Number	1	2	3	Maximum
	Data Collected	10/01/84	10/01/84	10/1/84	Detected
<b>Heavy Metals</b>					
<b>Cadmium</b>		0.1	0.8	16.8	16.8
<b>Chromium</b>		24.4	27.2	30	30
<b>Calcium</b>		101.9	309	912	912
<b>Iron</b>		106	151	6025	6025
<b>Lead</b>		26.6	52.1	337	337
<b>Manganese</b>		<0.1	<0.1	9.9	9.9
<b>Zinc</b>		101.4	339	104100	104100
<b>Mercury</b>		0.36	0.46	1.99	1.99
<b>Arsenic</b>		NA	NA	NA	NA

Units of measure not listed in data package.

NA - Not Analyzed

(3)

Attachment

Time Collected: 7:40 P.M.

Lab #

CHAMPAIGN  
CML

Date Collected: OCT. 1, 84

SPECIAL ANALYSIS FORM

Date Received OCT 2 1984

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

ST. CLAIR

FILE HEADING:

CAHOKIA / DEAD CREEK

FILE NUMBER:

1630700005

SOURCE OF SAMPLE: (Exact Location) SAMPLE WAS A COMPOSITE  
OF SOIL AND/OR WASTE MATERIALS IN THE  
GENERAL AREA OF SAMPLES #1 AND #2.

PHYSICAL OBSERVATIONS, REMARKS:

SEVERAL MATERIALS FROM A WHITISH  
SUBSTANCE TO A DARK BROWN FINE  
POWDER LIKE MATERIAL WERE OBTAINED.

TESTS REQUESTED: PCB'S, ORGANIC SCAN, HEAVY METALS.

COLLECTED BY: KENNETH MENSING TRANSPORTED BY: KEN MENSING  
MIKE GRANT LABORATORY

RECEIVED BY: Hadi D. Kalthia DATE COMPLETED:

DATE FORWARDED:

cd 16.8

Cr 30.0

~~Cu 9.2~~

Fe 6025 6025

~~Pb 3.5~~

Mn 9.9

~~Zn 14.00~~

Hg 1.99

As

IEPA - CHAMPAIGN LAB  
Rec'd.

OCT - 5 1984

5013108

(7)

ac. ment

Time Collected: 7:30 P.M.

Lab # 11111111

Date Collected: OCT. 1, 84

SPECIAL ANALYSIS FORM

Date Received 11-1-84

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

ST. CLAIR

FILE HEADING:

CAHOKIA / DEAD CREEK

FILE NUMBER:

11-30700005

SOURCE OF SAMPLE: (Exact Location)

SAMPLE WAS COLLECTED FROM A BLACK OILY PIT JUST WEST OF THE NORTHWEST CORNER OF DEAD CREEK.

PHYSICAL OBSERVATIONS, REMARKS:

JUST EAST OF SAMPLE #1. VERY THICK BLACK OILY MATERIAL FLOATING ON WATER. SAMPLE CONSISTED OF BOTH THE OILY MATERIAL AND WATER.

TESTS REQUESTED:

PCB'S, ORGANIC SCAN, (HEAVY METALS)

COLLECTED BY:

KEN MENSINK

TRANSPORTED BY:

KEN MENSINK

MIKE GRANT

LABORATORY

RECEIVED BY: Hedji K. H. H.

DATE

COMPLETED:

DATE

FORWARDED:

Cd 0.8

Cr 27.2

~~Cu 584.6~~

Fe 151

Pb 52.1

Mn 20.1

~~Zn 339~~

Hg 0.46

As

IEPA - CHAMPAIGN LAB  
Rec'd.

OCT-5 1984

11-30700005

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ecology and environment

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Attachment

Time Collected: 2:15 P.M.

Lab # 5-35937

Date Collected: OCT. 1, 94

SPECIAL ANALYSIS FORM

Date Received OCT 21 94

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

ST. CLAIR

FILE HEADING:

CAHOKIA / DEAD CREEK

FILE NUMBER:

16307000025

SOURCE OF SAMPLE: (Exact Location) SAMPLE WAS COLLECTED FROM A BLACK OIL PIT JUST WEST OF THE NORTHWEST CORNER OF DEAD CREEK.

PHYSICAL OBSERVATIONS, REMARKS: JUST WEST OF SAMPLE #2 VERY THICK BLACK OIL MATERIAL DUMPED ON THE GROUND.

TESTS REQUESTED: PCB'S, ORGANIC SCAN, HEAVY METALS

COLLECTED BY: KEN MENSTINE

TRANSPORTED BY: KEN MENSTINE

MIKE GRANT

LABORATORY

RECEIVED BY: Harji D. K. Althia

DATE

COMPLETED:

DATE

FORWARDED:

Cd 0.1

Cr 24.4

~~Cu 101.7~~

Fe 106

Pb 26.6

Mn 20.1

Zn 101.4

Hg 0.36

As

IEPA - CHAMPAIGN DIST - 5 1984  
Rec'd.

5013706

N

**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

recycled paper

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	34 B	32 B	33 B	35 B	42 B	63 B	61 B	27 B	51 B	59 B
Acetone	28 BJ	23 BJ	25 BJ		48 B	41 B	25 JB		55 B	
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	43 B	ND	ND	61 B	ND	51 B	37 B	57 B	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	9 J	8 J
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	22	11 J
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	18 B	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

## Site G

## SURFACE SOIL SAMPLES

## Volatile Organic Compounds (µg/kg)

Collected by Ecology &amp; Environment, Inc. (11/86)

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	59 B	105 B	43 B	95 B	26 B	56 B	90 B	36 B	81 B	73 B
Acetone	37 B	27 BJ	32 B	ND	18 B	28 BJ	13 BJ	67 B	140 B	99 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	42 B	61 B	16 B	46 B	ND	ND	180 B	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	16 J	280	ND	ND	14 J	ND	ND	55	220 B	510 B
2-Hexanone	ND	ND	ND	22 B	ND	ND	ND	ND	17 BJ	58 B
Tetrachloroethene	63	50	ND	24	ND	ND	ND	ND	13 J	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	36 B	ND	30 B	ND	12	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

# SAUGET Analytical Data Site G

## SURFACE SOIL SAMPLES Volatile Organic Compounds (µg/kg) Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	160 B	62 B	58 B	71 B	79 B	68 B	63 B	63 B	80 B	62 B
Acetone	400 B	ND	41	39 B	90	14 BJ	17 BJ	13 BJ	37 B	16 BJ
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	42	ND	ND	40 B	46 B	36 B	36 B	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	160	49 B	ND	320	610	ND	ND	ND	ND	47
2-Hexanone	23 BJ	28 BJ	20 J	51 B	ND	ND	ND	ND	ND	ND
Tetrachloroethene	40 J	ND	ND	ND	ND	12 J	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	45	37	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Volatile Organic Compounds (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	90 B	35 B	230 B	46 B	23 B	55 B	69 B	40 B	63 B	40 B
Acetone	36 B	30 B	170 B	19 BJ	ND	25 B	48 B	43 B	66 B	150 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	43 B	ND	37 B	ND	48 B	34 B	35 B	59 B	46 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	11 J	ND	19	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	2 J	80	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	190	29 J	2000	68	100	ND	ND	140	12 J	31
2-Hexanone	16 BJ	ND	89 B	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	21	ND	ND	ND	ND	ND	12 J	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	32	ND	ND	ND	1400	ND	33
Chlorobenzene	ND	ND	ND	18	ND	ND	ND	40	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	55	140	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	150	170	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected



**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Volatile Organic Compounds (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
VOC						
Chloromethane	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Methylene chloride	37 B	60 B	29 B	52 B	65 B	230 B
Acetone	41 B	58 B	21 BJ	18 BJ	28 J	400 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	37 B	39 B	40 B	ND	ND	180 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	19
Dibromochloromethane	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	4 J	ND	ND	80
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	34	ND	ND	ND	ND	2000
2-Hexanone	ND	ND	ND	ND	ND	89 B
Tetrachloroethene	ND	ND	ND	ND	ND	63
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	1400
Chlorobenzene	ND	ND	ND	ND	ND	40
Ethylbenzene	ND	ND	ND	ND	ND	140
Styrene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	170

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
<b>BNAs</b>										
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis (2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

recycled paper

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
PAHs										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	2600 J	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	170 BJ	2800 B	ND	480 BJ	320 BJ	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND	480	ND	540 J	ND
Pyrene	ND	ND	ND	ND	ND	ND	290 J	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	220 J	ND	950 J	ND
bis(2-ethylhexyl)phthalate	ND	910	230 J	470	ND	ND	170 J	140 J	240 J	ND
Chrysene	ND	ND	ND	ND	ND	ND	310 J	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	610 BJ
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	610	ND	750 J	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	160 J	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	190 J	47 J	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	280 J	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	84 J	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	230 J	ND	1100 J	ND

µg/kg - Micrograms per kilogram

B = Compound detected in blank sample

J = Estimated value

ND = Not detected

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
<b>BNAs</b>										
<b>Phenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>bis(2-Chloroethyl)ether</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Chlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>1,3-Dichlorobenzene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>1,4-Dichlorobenzene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Benzyl Alcohol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>1,2-Dichlorobenzene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Methylphenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>bis(2-Chloroisopropyl)ether</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>4-Methylphenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>N-Nitroso-n-Dipropylamine</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Hexachloroethane</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Nitrobenzene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Isophorone</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Nitrophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2,4-Dichlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Benzoic Acid</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>bis-(2-Chloroethoxy)methane</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2,4-Dichlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>1,2,4-Trichlorobenzene</b>	ND	ND	ND	ND	ND	ND	990 J	ND	ND	ND
<b>Naphthalene</b>	14000	ND	ND	ND	ND	ND	120000	ND	ND	1800 J
<b>4-Chloroaniline</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Hexachlorobutadiene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>4-Chloro-3-methylphenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Methylnaphthalene</b>	1000 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Hexachlorocyclopentadiene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2,4,6-Trichlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2,4,5-Trichlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Chloronaphthalene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Nitroaniline</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Dimethyl Phthalate</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Acenaphthylene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>3-Nitroaniline</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Acenaphthene</b>	570 J	ND	ND	ND	ND	1800 J	1100 J	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	920 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	10000 J	ND	ND	ND
Pentachlorophenol	4700 J	7800 J	ND	ND	1200000	1400000	ND	ND	ND	ND
Phenanthrene	4800 J	ND	ND	ND	40000 J	37000 J	8700 J	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	3000 BJ
Fluoranthene	ND	1300 J	ND	ND	44000	45000	ND	ND	ND	ND
Pyrene	ND	1100 J	ND	ND	85000	71000	3800 J	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	86000	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	27000 J	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	6000	820 J	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	4400 J	39000 J	39000 J	ND	ND	ND	ND
Di-n-octyl phthalate	2600 BJ	3100 B	ND	14000 B	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	1200 J	ND	ND	47000	48000	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	520 J	ND	ND	22000 J	20000 J	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

BJ - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
<b>BNAs</b>										
Phenol	ND	ND	78 J	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	22000000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	89 J	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	120 J	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	180 J	ND	ND	ND	140 J	1800 J	ND	ND
Naphthalene	ND	ND	110 J	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	1000 J	ND	ND	ND	ND	3400 J	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	70 J	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
BNAs										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	12000	ND	18000 J	ND	ND	23000 J	ND	ND
Phenanthrene	ND	ND	1200	ND	ND	ND	180 J	ND	ND	ND
Anthracene	ND	ND	300 J	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	360 BJ	1700 B	ND	ND	ND	330 BJ	ND	ND	ND
Fluoranthene	ND	ND	2200	ND	6700 J	4800 J	ND	ND	ND	ND
Pyrene	ND	ND	850	5500 J	9000 J	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	960	ND	5100 J	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	660	ND	ND	ND	ND	ND	2900 J	ND
Chrysene	ND	ND	1100	ND	6400 J	ND	270 J	ND	ND	ND
Di-n-octyl phthalate	ND	140 BJ	99 BJ	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	1800	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	10000 J	10000 J	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	840	ND	4500 J	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	1100	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	430	ND	ND	ND	ND	ND	ND	ND
Benzo(a,h)anthracene	ND	ND	1200	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.

BJ - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
<b>BNAs</b>										
<b>Phenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>bis(2-Chloroethyl)ether</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Chlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>1,3-Dichlorobenzene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>1,4-Dichlorobenzene</b>	ND	ND	ND	ND	ND	240 J	ND	2600 J	ND	ND
<b>Benzyl Alcohol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>1,2-Dichlorobenzene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Methylphenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>bis(2-Chloroisopropyl)ether</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>4-Methylphenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>N-Nitroso-n-Dipropylamine</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Hexachloroethane</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Nitrobenzene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Isophorone</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Nitrophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2,4-Dichlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Benzoic Acid</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>bis-(2-Chloroethoxy)methane</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2,4-Dichlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	6200
<b>1,2,4-Trichlorobenzene</b>	ND	ND	ND	35000	ND	65 J	5300 J	ND	1800 J	ND
<b>Naphthalene</b>	ND	ND	ND	ND	ND	71 J	26000	110000	ND	140 J
<b>4-Chloroaniline</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Hexachlorobutadiene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>4-Chloro-3-methylphenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Methylnaphthalene</b>	ND	ND	ND	ND	ND	50 J	ND	850 J	ND	ND
<b>Hexachlorocyclopentadiene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2,4,6-Trichlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	1500 J
<b>2,4,5-Trichlorophenol</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Chloronaphthalene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>2-Nitroaniline</b>	ND	ND	ND	ND	ND	1100 J	220000	ND	ND	ND
<b>Dimethyl Phthalate</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Acenaphthylene</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>3-Nitroaniline</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Acenaphthene</b>	ND	ND	ND	ND	ND	200 J	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected



**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
BNAs										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000000
Dibenzofuran	ND	ND	ND	ND	ND	95 J	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	9900 J	ND	1600 J	ND	ND	21000000	1100 J
Phenanthrene	ND	ND	ND	ND	ND	2800	4900 J	ND	ND	920 J
Anthracene	ND	ND	ND	ND	ND	600	ND	ND	ND	810 J
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	880 J
Fluoranthene	ND	ND	ND	ND	ND	4600	ND	ND	ND	2600
Pyrene	ND	ND	ND	ND	ND	3100	ND	5800 J	ND	2400
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	2100	ND	ND	ND	1400 J
bis(2-ethylhexyl)phthalate	ND	ND	1400 J	ND	ND	ND	ND	ND	ND	2500
Chrysene	ND	ND	ND	ND	ND	2700	ND	8400 J	ND	2500
Di-n-octyl phthalate	ND	ND	2000 BJ	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	4800	ND	ND	ND	3600
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	1900	ND	1900 J	3900 J	1700 J
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	1700	ND	ND	ND	2100
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	550 J	ND	ND	ND	530 J
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	1500	ND	ND	ND	2400

µg/kg - Micrograms per kilogram

B.U. - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
<b>BNAs</b>						
Phenol	ND	ND	ND	ND	ND	78 J
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	210 J	ND	ND	22000000
Benzyl Alcohol	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	89 J
2-Methylphenol	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	6200
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	35000
Naphthalene	ND	290 J	110 J	ND	ND	120000
4-Chloroaniline	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	1000 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	1500 J
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	220000
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	770 J	ND	ND	1800 J

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	1000000
Dibenzofuran	ND	ND	460 J	ND	ND	920 J
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	1500 J	ND	ND	1500 J
4-Nitroaniline	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	10000 J
Pentachlorophenol	ND	20000	25000	ND	ND	21000000
Phenanthrene	ND	ND	15000	ND	ND	40000 J
Anthracene	ND	ND	4100	ND	ND	4100
Di-n-butyl phthalate	ND	ND	ND	150 J	1500 B	3000 BJ
Fluoranthene	ND	ND	20000	ND	ND	45000
Pyrene	ND	ND	19000	ND	ND	85000
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	86000
Benzo (a)anthracene	ND	ND	10000	ND	ND	27000 J
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	6000
Chrysene	ND	ND	10000	ND	ND	39000 J
Di-n-octyl phthalate	ND	ND	ND	ND	79 BJ	14000 B
Benzo(b)fluoranthene	ND	ND	15000	81 J	ND	48000
Benzo(k)fluoranthene	ND	750 J	ND	ND	ND	10000 J
Benzo(a)pyrene	ND	180 J	7800	ND	ND	22000 J
Indeno(1,2,3-cd)pyrene	ND	ND	5200	ND	ND	5200
Benzo(g,h,i)perylene	ND	ND	1500 J	ND	ND	1500 J
Dibenzo(a,h)anthracene	ND	ND	5400	ND	ND	5400

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Pesticides/PCBs (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
<b>Pesticides/PCBs</b>										
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	31 J	ND	ND	79	51	290	84	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	NI	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	2730000 C	44000
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	1430	ND	ND
Aroclor-1260	ND	450	ND	751	990	740	3800	1830	ND	ND

µg/kg - Micrograms per kilogram.

C - Result confirmed by GC/MS.

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Pesticides/PCBs (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
<b>Pesticides/PCBs</b>										
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	24000000 C	ND	ND	ND	184000	171000	ND	1700000	3600000 C	ND
Aroclor-1254	29000000 C	ND	ND	ND	ND	ND	ND	ND	7500000 C	ND
Aroclor-1260	21000000 C	174000 C	165000 J	887000	305000 J	232000 J	2700000 JC	ND	8000000 C	639000

µg/kg - Micrograms per kilogram

C - Result confirmed by GC/MS

J - Estimated value

ND - Not detected.

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Pesticides/PCBs (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
<b>Pesticides/PCBs</b>										
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	145000 JC	110000 C	ND	ND	ND	ND	ND	21000	30300
Aroclor-1254	2700000	ND	ND	ND	ND	ND	ND	246000 J	ND	ND
Aroclor-1260	ND	547000 C	218000 C	117000 J	122000 J	120000	2200000 C	625000	23000	35600

µg/kg - Micrograms per kilogram

C - Result confirmed by GC/MS

J - Estimated value

ND - Not detected.

**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES  
Pesticides/PCBs (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
<b>Pesticides/PCBs</b>										
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	12600 J	25600 J	5250000 C	9600	144000 C	151000 J	8700	544000	119000 JC

µg/kg - Micrograms per kilogram

C - Result confirmed by GC/MS

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

## Site G

## SURFACE SOIL SAMPLES

Pesticides/PCBs (µg/kg)

Collected by Ecology &amp; Environment, Inc. (11/86)

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
Pesticides/PCBs						
Alpha-BHC	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	290
Endrin	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND
Aroclor-1248	26600 J	ND	17000	ND	ND	24000000 C
Aroclor-1254	ND	ND	ND	ND	ND	29000000 C
Aroclor-1260	85800	52800	30100	ND	ND	21000000 C

µg/kg - Micrograms per kilogram

C - Result confirmed by GC/MS

J - Estimated value

ND - Not detected



**SAUGET Analytical Data  
Site G**

**SURFACE SOIL SAMPLES**

**Total Metals (mg/kg)**

Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
<b>Total Metals</b>										
<b>Aluminum</b>	11400	10900	7820	9670	15300	16500	7610	5950	9290	7880
<b>Antimony</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>	6.8 R	4.9 R	5.7 R	5.8 R	5.8	5.7 R	7.5	5.6 R	13 R	5.4 R
<b>Barium</b>	163	174	151	145	222	224	202	138	13800	575
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	2.6	3.4	1.8	1.7	6.3	4.8	10	3.3	10	4.4
<b>Chromium</b>	16	15	12	14	21	22	19	11	119	52
<b>Cobalt</b>	6.2	7.8	6.4	6.4	8	9.3	6	5.6	15	8.5
<b>Copper</b>	327	344	162	245	392	572	2220	675	1200	260
<b>Iron</b>	19000	20300	16700	17400	25900	27600	20300	13800	38800	18000
<b>Lead</b>	103 *	134 *	68 *	99 *	232 *	230 *	514 *	131 *	655 *	334 *
<b>Manganese</b>	336	295	300	329	339	390	291	217	322	171
<b>Mercury</b>	0.16	0.23	ND	ND	0.11	ND	ND	ND	6.6	1.3
<b>Nickel</b>	22	25	18	22	35	33	24	16	360	84
<b>Selenium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND	ND	ND	ND	4.2	5
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	25	26	20	23	35	38	22	16	139	31
<b>Zinc</b>	299	406	188	281	619	613	975	354	4580	5130
<b>Cyanide</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Laboratory duplicate analysis not within control limits

## SAUGET Analytical Data

## Site G

## SURFACE SOIL SAMPLES

## Total Metals (mg/kg)

Collected by Ecology &amp; Environment, Inc. (11/86)

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
Total Metals										
Aluminum	2790	23300	4780	4710	6960	6170	8890	4860	4790	9410
Antimony	ND	ND	ND	ND	14	21	ND	ND	ND	ND
Arsenic	5.6 R	2.6 R	12 R	8 R	38 R	38 R	33 R	64 R	57 R	40 R
Barium	20200	7340	169000	67300	1160	869	1560	13900	1810	4780
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	4.5	8.1	6	4	46	45	17	7.2	10	11
Chromium	39	46	24	52	147	98	66	137	47	34
Cobalt	12	13	89	27	11	11	7.3	15	3.8	6.7
Copper	487	1430	624	483	2170	1620	914	246	637	639
Iron	29800	45000	22200	22400	75800	108000	46000	46800	48600	25800
Lead	614 *	711 *	310 *	2950 *	1240 *	1610 *	1470 *	207 *	263 *	1470 *
Manganese	96	150	129	191	770	874	534	193	223	144
Mercury	1.7	14	2	7.4	3.2	5.8	6.6	0.57	12	2.3
Nickel	61	382	62	48	122	109	87	95	84	39
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
Silver	ND	ND	ND	ND	6.4	5.4	6.1	ND	ND	3.3
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	21	ND
Tin	ND	ND	ND	ND	34	34	ND	ND	163	ND
Vanadium	75	129	29	46	133	140	211	25	19400	20
Zinc	794	23900	8110	1840	22800	15600	5100	32100	3.9	46700
Cyanide	4.8	3.3	2	2.8	1.6	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Laboratory duplicate analysis not within control limits

**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
<b>Total Metals</b>										
Aluminum	6960	4990	9620	4470	5720	16300	5040	14900	19500	2890
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	14 R	23 R	22 R	39 *	24 *	11 *	10 *	11 *	10 *	84 *
Barium	10600	19300	4340	6320	2220	3190	1460	1000	3760	1430
Beryllium	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	5	8.7	20	17 R*	20 R*	21 R*	27 R*	5.2 R*	8 R*	11 R*
Chromium	44	81	48	14 R*	50 R*	137 R*	22 R*	92 R*	12 R*	28 R*
Cobalt	12	18	59	ND	[5.0]	[163]	[5.2]	[3.9]	[18]	[3.3]
Copper	444	684	1950	1480	1900	1020	648	4880	489	852
Iron	33600	15900	39900	26800 *	29200 *	33900 *	28700 *	35600 *	12500 R*	34000 *
Lead	482 *	296 *	11700 *	418 *	437	580 *	440 *	873 *	279 R*	304 *
Manganese	116	278	10800	184 R*	204 R*	326 R*	259 R*	247 R*	75 R*	238 R*
Mercury	3	2.7	11	1.02	1.13	1.6	26	3	0.66	23
Nickel	52	33	50	105 *	135 *	80 *	34 *	86 *	111 *	52 *
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	33	3.7 R*	3.4 R*	3.5 R*	ND	ND	ND	3.6 R*
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin	ND	ND	ND	ND	16	ND	ND	43	ND	12
Vanadium	69	41	166	84	75	108	59	75	11	284
Zinc	814	7100	24200	32200	41400	4660	4520	3280	3080	67800
Cyanide	4.4	3.2	2.7	1.3	1.7	ND	ND	2.5	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Laboratory duplicate analysis not within control limits

## SAUGET Analytical Data

Site G

## SURFACE SOIL SAMPLES

Total Metals (mg/kg)

Collected by Ecology &amp; Environment, Inc. (11/86)

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
Total Metals										
Aluminum	4790	12700	14300	5720	2830	6370	4560	2630	4890	7640
Antimony	ND	ND	19	ND	ND	ND	ND	ND	16	18
Arsenic	7.4 *	8.6 *	1340	9200	533	1750	3870	ND	4480	1940
Barium	1250	1390	ND	ND	ND	ND	ND	ND	ND	ND
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	8.7 R*	8.1 R*	5.2 R*	6.5 R*	5.3 R*	15 R*	26 R*	2 R*	9.7 R*	26 R*
Chromium	29 R*	21 R*	14 R*	24 R*	28 R*	49 R*	45 R*	19 R*	26 R*	106 R*
Cobalt	ND	[4.0]	ND	[12]	[2.4]	[9.7]	[5.9]	[20]	[6.3]	[16]
Copper	624	1420	596	435	317	5500	2260	327	1090	1660
Iron	82900 *	17500	12400 *	16400 *	23400 *	28400 *	53900 *	9780 *	22000 *	75100 *
Lead	232	1270 *	417 *	318 *	205	689 *	724 *	105 *	725 *	18400 *
Manganese	408 R*	191 R*	43 R*	119 R*	102 R*	243 R*	746 R*	50 R*	193 R*	457 R*
Mercury	18	0.91	0.9	2	2.2	5	3	0.49	2.9	2.2
Nickel	35 *	29 *	ND	21 *	15 *	95 *	53 *	35 *	159 *	70 *
Selenium	ND	ND	ND	ND	ND	1.9	4.1	ND	1.8	1.3
Silver	ND	5.4 R*	4.1 R*	ND	ND	8.9 R*	8 R*	ND	6.9 R*	19 R*
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin	14	ND	ND	ND	ND	14	18	16	17	22
Vanadium	632	30	16	112	39	132	118	23	120	33
Zinc	20600	1890	44400	12000	21700	4980	4720	239	1660	6350
Cyanide	ND	ND	ND	2	22	ND	2.3	1.4	ND	13

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Laboratory duplicate analysis not within control limits

**SAUGET Analytical Data**  
**Site G**

**SURFACE SOIL SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
<b>Total Metals</b>						
<b>Aluminum</b>	10300	5540	8960	7520	9260	23300
<b>Antimony</b>	ND	ND	ND	ND	ND	21
<b>Arsenic</b>	42 *	12 *	8 *	ND	7 R*	9200
<b>Barium</b>	5210	1960	360	441	326	169000
<b>Beryllium</b>	ND	ND	ND	ND	ND	1.4
<b>Boron</b>	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	8.1 R*	13 R*	14 R*	1.5 R*	1.4	46
<b>Chromium</b>	20 R*	21 R*	66 R*	11 R*	13	147
<b>Cobalt</b>	[4.6]	[10]	[4.4]	[4.1]	4.9	89
<b>Copper</b>	1510	1090	753	33	31	5500
<b>Iron</b>	15300 *	26500 *	17700 *	13400 *	16200	108000
<b>Lead</b>	516 *	411 *	326 *	60 *	68 *	18400 *
<b>Manganese</b>	77 R*	331 R*	159 R*	336 R*	381	10800
<b>Mercury</b>	1.2	3	3.4	ND	ND	26
<b>Nickel</b>	30 *	145 *	27 *	15 *	16	382
<b>Selenium</b>	ND	ND	ND	ND	ND	4.1
<b>Silver</b>	3.9 R*	3 R*	3 R*	ND	ND	33
<b>Thallium</b>	ND	ND	ND	ND	ND	21
<b>Tin</b>	14	ND	ND	ND	ND	163
<b>Vanadium</b>	17	550	16	19	22	19400
<b>Zinc</b>	39000	2360	1500	170	162	67800
<b>Cyanide</b>	1.8	1	ND	2	ND	22

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Laboratory duplicate analysis not within control limits

DRAFT



FIGURE 3-6 GRID SECTION DESIGNATIONS FOR SURFACE SOIL SAMPLING AT SITE G

# SAUGET Analytical Data Site G

## SUBSURFACE SOIL SAMPLES Volatile Organic Compounds (µg/kg) Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	1/26/87	1/26/87	1/26/87	1/26/87	1/27/87
VOC			BLANK				BLANK			
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	8 BJ	15 B	9 BJ	6223 B	7112 B	602 B	4 BJ	3 BJ	3 BJ	851 BJ
Acetone	32 BJ	266 B	ND	4899 B	3048 BJ	10500 B	20 B	1980 EB	2250 EB	3302 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	36 B	29 B	27 B	15240 B	17780 B	4100 B	ND	22 B	15 B	3683 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	762 J
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	3 J	5 J	10160
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	635 J
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	9 J	ND	13970	5207	ND	ND	ND	ND	3556
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	406 J	ND	ND	ND	ND	ND	27940
Chlorobenzene	ND	ND	ND	584 J	ND	1800	ND	107	150	2413
Ethylbenzene	ND	ND	ND	ND	ND	164 J	ND	ND	ND	1245 J
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	92	ND	ND	ND	2794

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value. Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

Site G

## SUBSURFACE SOIL SAMPLES

Volatile Organic Compounds (µg/kg)

Collected by Ecology &amp; Environment, Inc. (1/87-2/87)

Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
VOC		BLANK				
Chloromethane	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Methylene chloride	1082 BJ	48 B	646 BJ	871 BJ	465 BJ	7112 B
Acetone	4118 B	18 B	15385 B	12857 B	6047 B	15385 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	700 J	ND	700 J
Chloroform	ND	ND	ND	ND	11628	11628
1,2-Dichloroethane	435 J	ND	ND	ND	ND	435 J
2-Butanone (MEK)	8941 B	27 B	9692 B	12286	9635 B	17780 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
Trichloroethene	1141 J	ND	3846	2000 J	ND	3846
Dibromochloromethane	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
Benzene	9882	ND	21538	5143	45349	45349
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	1176 J	ND	4154	6000	ND	6000
2-Hexanone	ND	ND	ND	ND	ND	ND
Tetrachloroethene	11765	ND	44615	58571	12791	58571
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	581 J	581 J
Toluene	117647	ND	38462	12143	94186	117647
Chlorobenzene	27059 B	1 J	538462 E	100000 B	187674 E	538462 E
Ethylbenzene	988 J	ND	16923	14286	7209	16923
Styrene	ND	ND	ND	ND	ND	ND
Total Xylenes	2235	ND	41538	35714	16279 B	41538

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected



**SAUGET Analytical Data**  
**Site G**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	01/26/87	01/26/87	01/26/87	01/26/87	01/27/87
<b>BNAs</b>			BLANK				BLANK			
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	177800
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	8763 J
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	3556 J	ND	ND	ND	2376	3750 J	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	6095 J
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	3556 J
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	38100
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	7874 J
Naphthalene	ND	ND	ND	4953 J	4826 J	ND	ND	ND	ND	254000
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	5969 J
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	13970 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	49530
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected.

**SAUGET Analytical Data**  
**Site G**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	01/26/87	01/26/87	01/26/87	01/26/87	01/27/87
<b>BNAs</b>			BLANK				BLANK			
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	177800
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	40640	27940	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	620000 E	990600	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	26670
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	279 BJ	293 BJ	368 BJ	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND		ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND			ND	ND	ND	ND	ND	19050
Butyl Benzyl phthalate	ND	ND		ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	22860
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

# SAUGET Analytical Data Site G

## SUBSURFACE SOIL SAMPLES

Base Neutrals/Acids ( $\mu\text{g/kg}$ )

Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-G6-67	DC-G6-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
Blank		BLANK				
Phenol	ND	ND	ND	ND	ND	177800
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	8763 J
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	3750 J
Benzyl Alcohol	ND	ND	ND	ND	ND	6095 J
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	3556 J
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	14118 J	ND	ND	141429 J	ND	141429 J
1,2,4-Trichlorobenzene	103529	ND	120000 J	ND	15116 J	120000 J
Naphthalene	341176	ND	109231 J	5428571	109302	5428571
4-Chloroaniline	ND	ND	230769 J	ND	8023 J	230769 J
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	8706 J	ND	ND	37143 J	13953 J	37143 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	49530
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	2674 J	2674 J

$\mu\text{g/kg}$  - Micrograms per kilogram

B - Compound detected in blank sample.

E - Estimated value Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**SUBSURFACE SOIL SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
<b>BNAs</b>		BLANK				
2,4-Dinitrophenol	ND	ND	ND	ND	13953 J	13953 J
4-Nitrophenol	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	33846 J	ND	4302 J	33846 J
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	22657	ND	22657
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	11279	11279
4-Nitroaniline	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	177800
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	40640
Pentachlorophenol	23529 J	ND	4769231	185714 J	ND	4769231
Phenanthrene	12841 J	ND	ND	51429 J	22581	51429 J
Anthracene	ND	ND	ND	ND	8488 J	8488 J
Di-n-butyl phthalate	17647 J	10000 B	ND	ND	17442 BJ	17647 J
Fluoranthene	6588 J	ND	ND	ND	ND	6588 J
Pyrene	ND	ND	ND	ND	7558 J	19050
Butyl Benzyl phthalate	ND	ND	ND	ND	23256	23256
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	22860
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value    Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**SUBSURFACE SOIL SAMPLES  
Pesticides/PCBs ( $\mu\text{g/kg}$ )  
Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	01/26/87	01/26/87	01/26/87	01/26/87	01/27/87
Pesticides/PCBs			BLANK				BLANK			
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	3073	3683	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	130 J	ND	ND	ND	ND	ND	1792 J	ND	ND	57150

$\mu\text{g/kg}$  - Micrograms per kilogram

C - Result confirmed by GC/MS

E - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site G**

**SUBSURFACE SOIL SAMPLES**  
**Pesticides/PCBs (µg/kg)**  
**Collected by Ecology & Environment, Inc. (1/87-2/87)**

	Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
	Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
	Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
<b>Pesticides/PCBs</b>			BLANK				
Alpha-BHC		ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND
4,4'-DDE		52941	ND	135385 J	ND	ND	135385 J
Endrin		ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	174419 C	174419 C
Aroclor-1254		ND	ND	ND	ND	ND	ND
Aroclor-1260		784706	ND	661538 J	4428571	267442 C	4428571

µg/kg - Micrograms per kilogram.

C - Result confirmed by GC/MS

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site G**

**SUBSURFACE SOIL SAMPLES**

**Total Metals (mg/kg)**

**Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	01/26/87	01/26/87	01/26/87	01/26/87	01/27/87
<b>Total Metals</b>			BLANK				BLANK			
<b>Aluminum</b>	9760	18667	12821	5304	3380	12767	14359	8671	8200	9304
<b>Antimony</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>	4 R	2 R	6 R	3 R	2 R	5	7	4	4	5
<b>Barium</b>	213	168	359	45949	15570	206	424	117	140	233
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	ND	ND	2	2	ND	ND	3	ND	ND	ND
<b>Chromium</b>	9	6	13	18	5	16	13	9	7	16
<b>Cobalt</b>	ND	ND	ND	56	19	ND	ND	ND	ND	16
<b>Copper</b>	16	ND	31	28	8	8	33	18	3	16
<b>Iron</b>	14000	9853	16282	13844	6392	12712	13846	8829	9900	11418
<b>Lead</b>	12 R	8 R	68 R	30 R	16 R	11 *	51 *	8 *	32 *	14 *
<b>Manganese</b>	308	179	410	242	92	278 R	382 R	182 R	209 R	461
<b>Mercury</b>	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Nickel</b>	13	ND	17	35	ND	15	19	13	13	89
<b>Selenium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	28	21	36	22	14	25	28	ND	19	27
<b>Zinc</b>	103	27	187	115	39	44	190	50	65	224
<b>Cyanide</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Duplicate analysis not within control limits

**SAUGET Analytical Data  
Site G**

**SUBSURFACE SOIL SAMPLES**

**Total Metals (mg/kg)**

**Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
<b>Total Metals</b>		BLANK				
<b>Aluminum</b>	1859	6785	16615	4343	966	18667
<b>Antimony</b>	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>	ND	6 R	123 R	16 R	ND	123 R
<b>Barium</b>	142	363	1554	284	133	45949
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	ND	2	14	5	ND	14
<b>Chromium</b>	12	11	985	109	11	985
<b>Cobalt</b>	ND	ND	ND	ND	13	56
<b>Copper</b>	18	30	2215	507	10	2215
<b>Iron</b>	6035	12354	53692	12243	4058	53692
<b>Lead</b>	25 *	57 *	3123 *	833 *	22 *	3123 *
<b>Manganese</b>	73 *	357 *	282 *	193 *	43 *	481
<b>Mercury</b>	ND	ND	ND	34.3	ND	34.3
<b>Nickel</b>	10 *	14	123 *	399 *	ND	399 *
<b>Selenium</b>	ND	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	12	ND	12
<b>Thallium</b>	ND	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	80	26	ND	80
<b>Vanadium</b>	31	16	1315	109	ND	1315
<b>Zinc</b>	86 *	168 *	2954 *	4257 *	51	4257 *
<b>Cyanide</b>	ND	ND	ND	ND	ND	ND

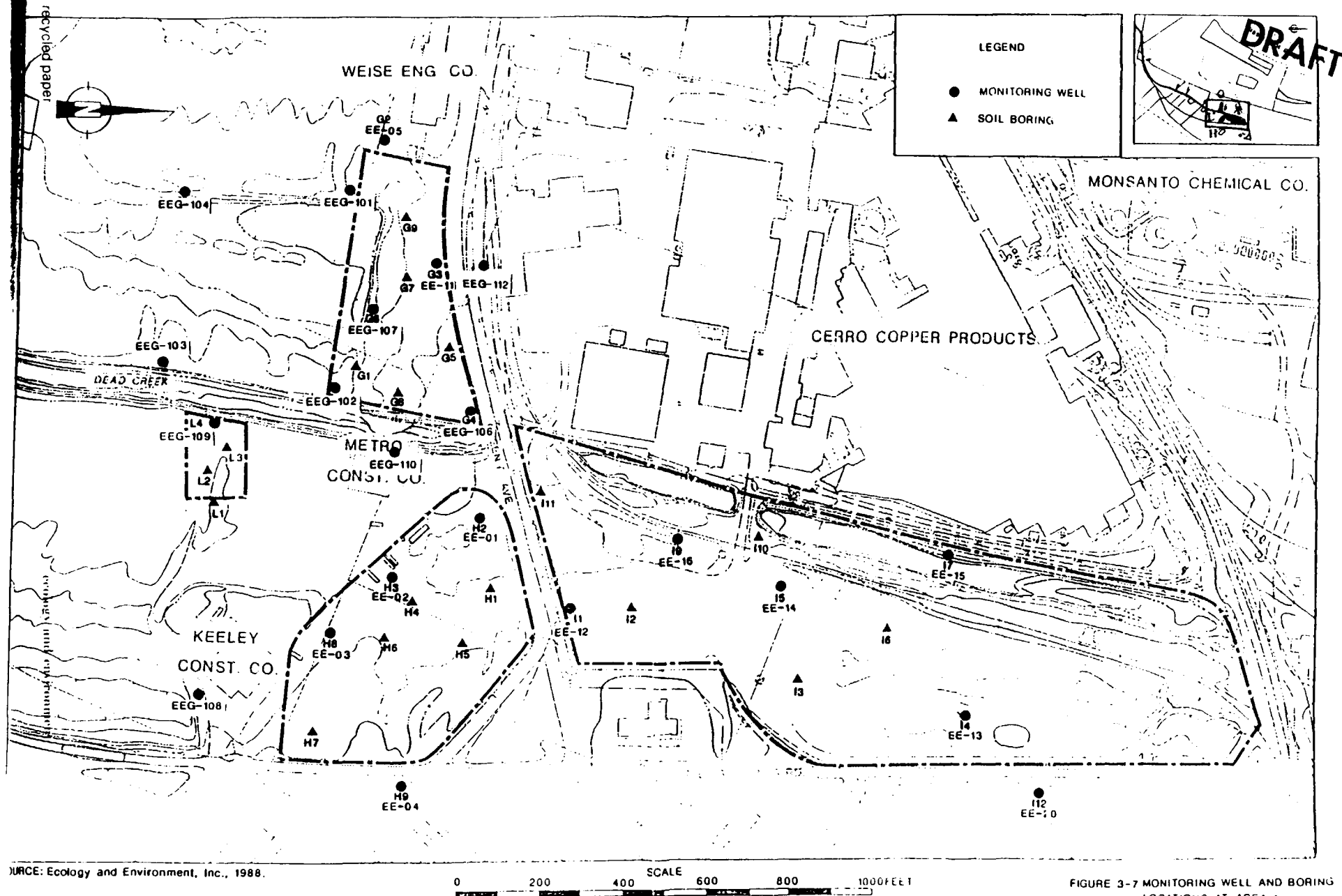
mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Duplicate analysis not within control limits



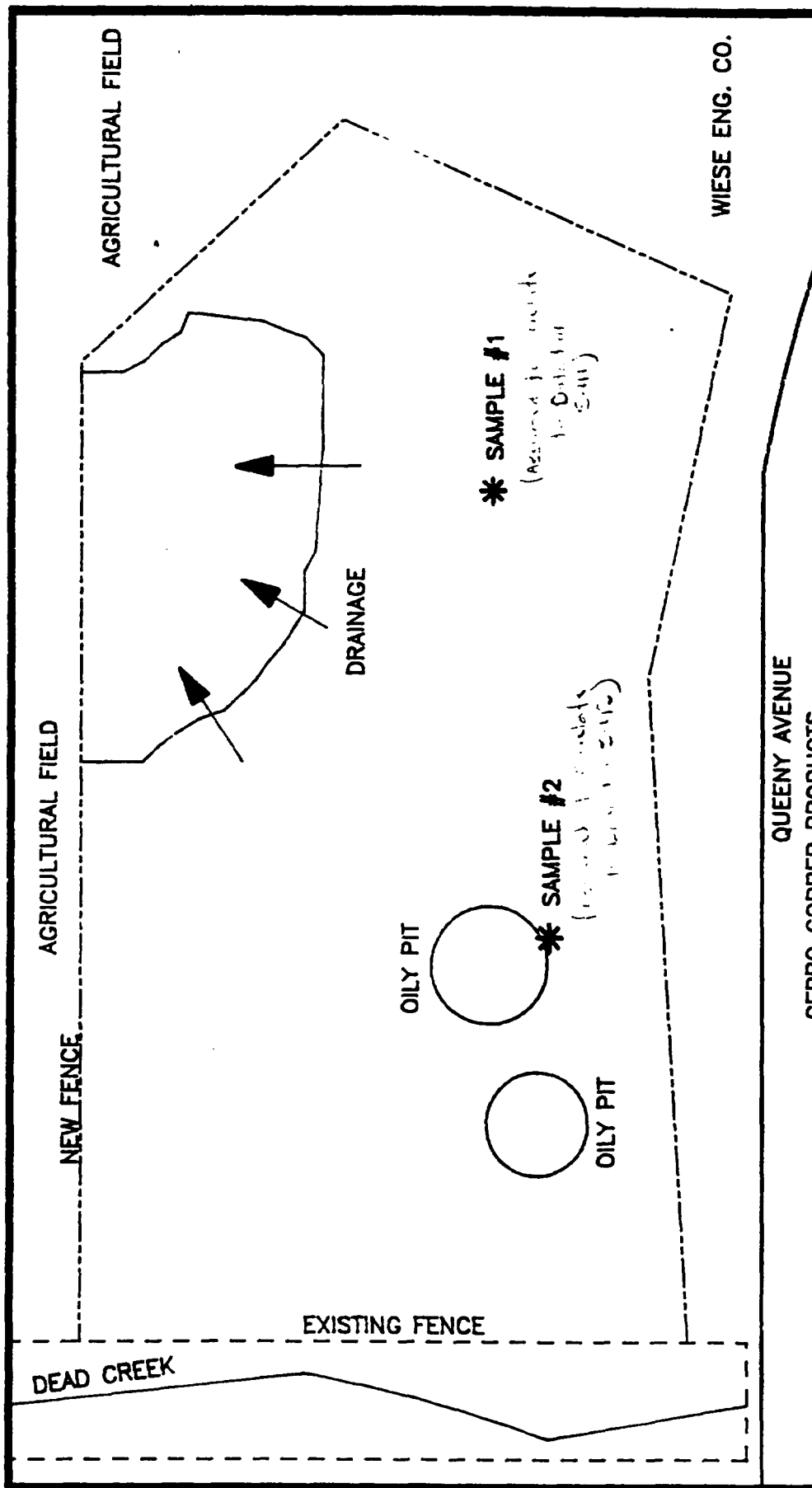


**SAUGET Analytical Data  
Site G**

**SOIL SAMPLES  
PCB and PCP (mg/kg)  
Collected by Weston (3/4/87)**

	Sample Number	S-41	S-42	Maximum
				Concentration
<b>PCP</b>		< 10	< 2600 #	ND
<b>PCB</b>		70	25	70

# - high detection limit due to matrix interference  
 mg/kg - Milligrams per kilogram.  
 PCP - Pentachlorophenol  
 PCB - Polychlorinated biphenyl



NO SCALE

FIGURE 2

SITE MAP

DEAD CREEK, SITE-G

SAUGET, ILLINOIS

**WESTON**  
DESIGNERS  
CONSULTANTS

DRAWN <i>J. Binkley</i>	DATE 8/12/87	PCS # 1057
APPROVED <i>SOS</i>	TDD # 5-8763-11	

**SAUGET Analytical Data  
Dead Creek - Segment G**

**WASTE/SOIL SAMPLES  
Metals (mg/kg)  
Collected by IEPA (10/01/84)**

Sample Number	WS-1	WS-2	WS-3	G106	G106	G106	G106	G106	G106	G106
Description	Oily Waste	Oily Waste	Comp. Oil & Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth Interval				7.5'-9'	10'-11.5'	12.5'-13'	15.5'-17'	18'-19.5'	20'-21.5'	30'-31.5'
<b>Metals</b>										
Arsenic	0.3	0.6	97	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.1	0.8	16.8	NA	NA	NA	NA	NA	NA	NA
Copper	101.4	509	712	140	90	59	54	56	28	14
Chromium	24.4	27.2	30	NA	NA	NA	NA	NA	NA	NA
Iron	108	151	6025	12600	12300	10400	9700	13600	5700	4700
Lead	26.6	52.1	337	15	11	8	9	12	3	6
Nickel	NA	NA	NA	36	21	11	43	21	8	19
Phosphorus	NA	NA	NA	592	475	383	391	540	249	183
Manganese	ND	ND	9.9	NA	NA	NA	NA	NA	NA	NA
Mercury	0.36	0.46	1.99	NA	NA	NA	NA	NA	NA	NA
Zinc	101.4	339	104100	183	53	36	43	49	29	ND

Sample Number	G107	G107	Maximum
Description	Soil	Soil	Concentration
Depth Interval	0.5'-2'	5'-6.5'	Detected
<b>Metals</b>			
Arsenic	NA	NA	97
Cadmium	NA	NA	16.8
Copper	91	53	712
Chromium	NA	NA	30
Iron	21200	21900	21900
Lead	170	49	337
Nickel	37	39	43
Phosphorus	1340	681	1340
Manganese	NA	NA	9.9
Mercury	NA	NA	1.99
Zinc	370	313	104100

mg/kg - Milligrams per kilogram.

ND - Not detected

NA - Parameter not analyzed.

**SAUGET Analytical Data  
Dead Creek - Segment G**

**WASTE/SOIL SAMPLES**

**Collected by IEPA (10/01/84)**

Sample Number	WS-1	WS-2	WS-3	G106	G106	G106	G106	G106	G106	G106
Description	Oily Waste	Oily Waste	Comp. Oil & Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth Interval				7.5'-8'	10'-11.5'	12.5'-13'	15.5'-17'	18'-19.5'	20'-21.5'	30'-31.5'
Aliphatic Hydrocarbons	19200	5.23	ND	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	ND	0.58	ND	NA	NA	NA	NA	NA	NA	NA
Dimethyl phenanthrene	3100	ND	ND	NA	NA	NA	NA	NA	NA	NA
Phenyl indene	320	ND	ND	NA	NA	NA	NA	NA	NA	NA
Pyrene	610	ND	ND	NA	NA	NA	NA	NA	NA	NA
Trimethyl Phenanthrene	1400	ND	ND	NA	NA	NA	NA	NA	NA	NA
Other Organics (not specified)	1200	0.4	4070	NA	NA	NA	NA	NA	NA	NA
PCB's (µg/g)	ND	ND	18	NQ	NQ	NQ	ND	ND	ND	ND

Sample Number	G107	G107	Maximum
Description	Soil	Soil	Concentration
Depth Interval	0.5'-2'	5'-6.5'	Detected
Aliphatic Hydrocarbons	NA	NA	19200
Chlorobenzene	NA	NA	0.58
Dimethyl phenanthrene	NA	NA	3100
Phenyl indene	NA	NA	320
Pyrene	NA	NA	610
Trimethyl Phenanthrene	NA	NA	1400
Other Organics (not specified)	NA	NA	4070
PCB's (µg/g)	0.62	ND	18

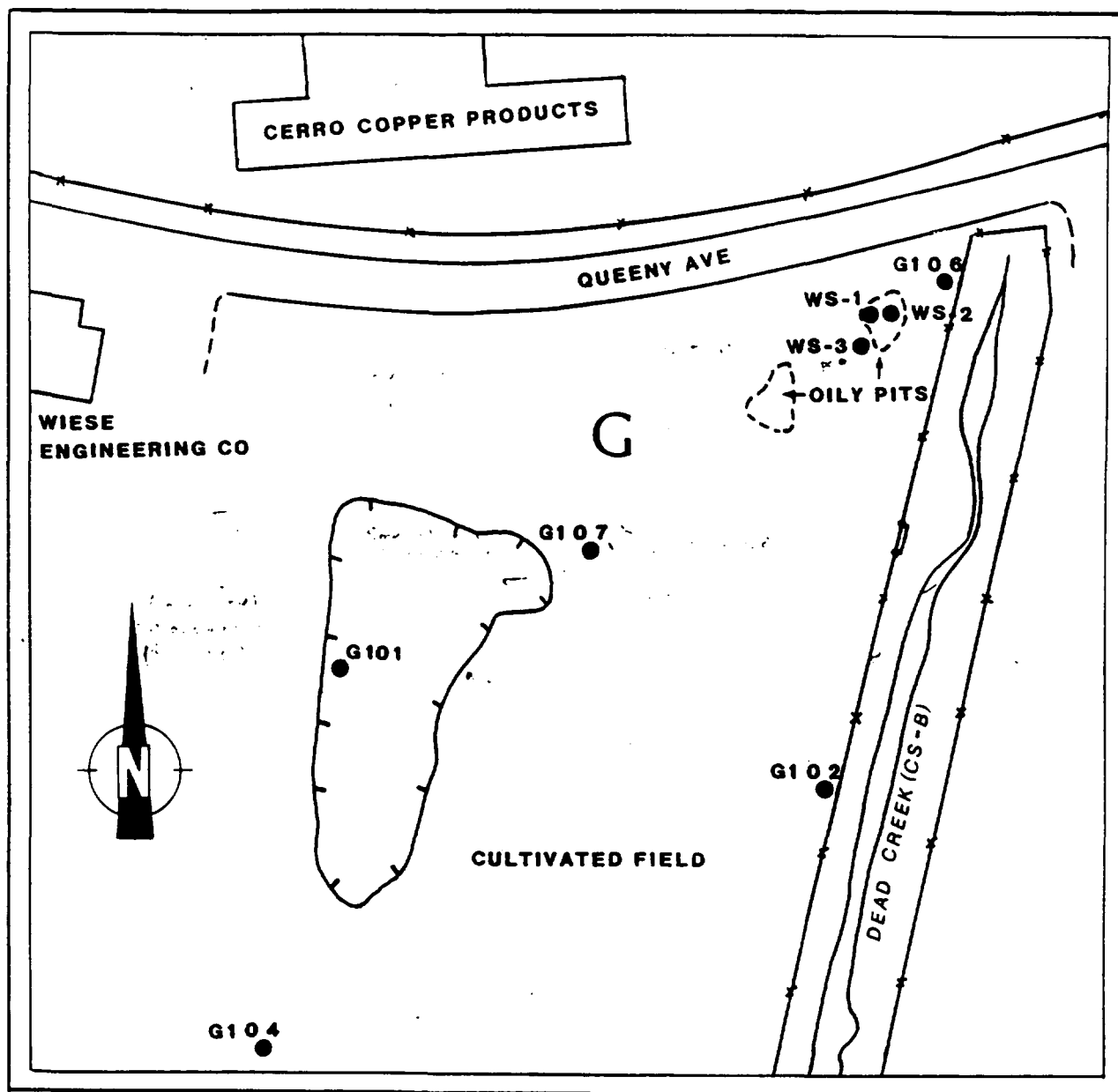
mg/kg - Milligrams per kilogram

ND - Not detected.

NQ - detected but not quantified (trace)

NA - Parameter not analyzed.

µg/g - Micrograms per gram.



LEGEND

G106	IEPA MONITORING WELL
WS-1	IEPA WASTE SAMPLING LOCATION

FIGURE G-1  
DEAD CREEK SITE AREA G WITH SAMPLE LOCATIONS

*mm*

SAUGET Analytical Data  
Site G

SOIL SAMPLES  
Volatile Organic Compounds (mg/kg) dry weight  
Collected by Geraghty & Miller, Inc. (10/91)

recycled paper

Sample Number	B-B1	Maximum
Sample Depth (ft)	0-2	Concentration
Date Collected	10/18/91	Detected
TOC		
Methylene chloride	<1.3 J	ND
Acetone	<1.8 J	ND
Carbon disulfide	<0.92 J	ND
2-Butanone	<3.7 J	ND
Benzene	<0.92 J	ND
Tetrachloroethene	<0.92 J	ND
Toluene	5.3 J	5.3 J
Chlorobenzene	2 J	2 J
Ethylbenzene	<0.92 J	ND
Xylenes	0.36 J	0.36 J
Chloroform	<0.92 J	ND
1,1,1-Trichloroethane	<0.92 J	ND

mg/kg - milligrams per kilogram

J - Estimated value

ND - Not detected

ecology and environment

**SAUGET Analytical Data**  
**Site G**

**SOIL SAMPLES**  
**Base Neutrals/Acids (mg/kg) dry weight**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	B-B1	Maximum
Sample Depth (ft)	0-2	Concentration
Date Collected	10/18/91	Detected
<b>BNAs</b>		
Phenol	<0.490	ND
2-Chlorophenol	0.460 J/<0.490	0.46 J
1,3-Dichlorobenzene	0.180 J/0.180 J	0.18 J
1,4-Dichlorobenzene	2.3/2.0	2.3
1,2-Dichlorobenzene	<0.490	ND
4-Methylphenol	<0.490	ND
Isophorone	<0.490	ND
2,4-Dimethylphenol	<0.490	ND
2,4-Dichlorophenol	0.840/0.880	0.88
1,2,4-Trichlorobenzene	1.6/1.6	1.6
Naphthalene	1.1/1.0	1.1
4-Chloroaniline	<0.490	ND
2-Methylnaphthalene	<0.490	ND
2,4,6-Trichlorophenol	1.3/1.4	1.4
2,4,5-Trichlorophenol	<2.5	ND
Acenaphthylene	<0.490	ND
Acenaphthene	0.230 J/0.270 J	0.27 J
Dibenzofuran	0.160 J/0.170 J	0.17 J
Diethylphthalate	<0.490	ND
Fluorene	0.340 J/0.310 J	0.34 J
N-Nitrosodiphenylamine	0.520/0.760	0.76
Hexachlorobenzene	<0.490	ND
Pentachlorophenol	1.4 J/2.9	2.9
Phenanthrene	0.870/<0.490	0.87
Anthracene	0.430 J/<0.490	0.49
Di-n-butyl phthalate	<0.490	ND
Fluoranthene	1.8/<0.490	1.8
Pyrene	6.6/4.3	6.6
Butyl Benzyl phthalate	<0.490	ND
Benzo(a)anthracene	1.6/1.8	1.8
bis(2-ethylhexyl)phthalate	2.4 B/1.9 B	2.4 B
Chrysene	1.7/1.2	1.7
Benzo(b)fluoranthene	2.7/4.0	4
Benzo(k)fluoranthene	1.9/<0.490	1.9
Benzo(a)pyrene	1.9/1.9	1.9
Indeno(1,2,3-cd)pyrene	0.7/1.0	1
Dibenzo(a,h)anthracene	<0.490	ND
Benzo(g,h,i)perylene	0.650/1.0	1

\* - Sample analyzed twice

J - Estimated concentration

B - Compound also detected in blank sample

E - Compound concentration is outside of instrument calibration limits



**SAUGET Analytical Data  
Site G**

**SOIL SAMPLES  
Total Metals (mg/kg) dry weight  
Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	B-B1	B-B2	B-B3	Maximum
	Sample Depth (ft)	0-2	4-6	2-4	Concentration
	Date Collected	10/18/91	10/18/91	10/18/91	Detected
<b>Total Metals</b>					
<b>Aluminum</b>		49200	7170	7460	49200
<b>Antimony</b>		<14.6 J	<13.5 J	<12.6 J	ND
<b>Barium</b>		1980	202	274	1980
<b>Cadmium</b>		22 J	R	R	22 J
<b>Calcium</b>		17300	16100	18500	18500
<b>Chromium</b>		71.1	10.4	10.9	71.1
<b>Cobalt</b>		10.3 B	8.7 B	10.5 B	10.5 B
<b>Copper</b>		3160 J	<21.8	23.6 J	3160 J
<b>Iron</b>		24200	17600	14400	24200
<b>Magnesium</b>		3030	7160	7460	7460
<b>Manganese</b>		119 J	177 J	252 J	252 J
<b>Nickel</b>		292 J	19.3 J	22.6 J	292 J
<b>Potassium</b>		1070 B	1470	1700	1700
<b>Silver</b>		5.1 J	<2.7 J	<2.5 J	5.1 J
<b>Sodium</b>		<259	<281	<304	ND
<b>Vanadium</b>		16.4	20.2	22.2	22.2
<b>Zinc</b>		5140	<65.0	<133	5140
<b>Mercury</b>		1.1	0.03	0.02	1.1
<b>Lead</b>		696	10	11.7	696
<b>Selenium</b>		4.4 J	R	R	4.4 J
<b>Arsenic</b>		72.2 J	11.1 J	2.5 J	72.2 J
<b>Cyanide</b>		2.5	<0.34	<0.31	2.5

mg/kg - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

**SAUGET Analytical Data  
Site G**

**SOIL SAMPLES**  
Pesticides/PCBs (mg/kg) dry weight  
Collected by Ecology & Environment, Inc. (11/86)

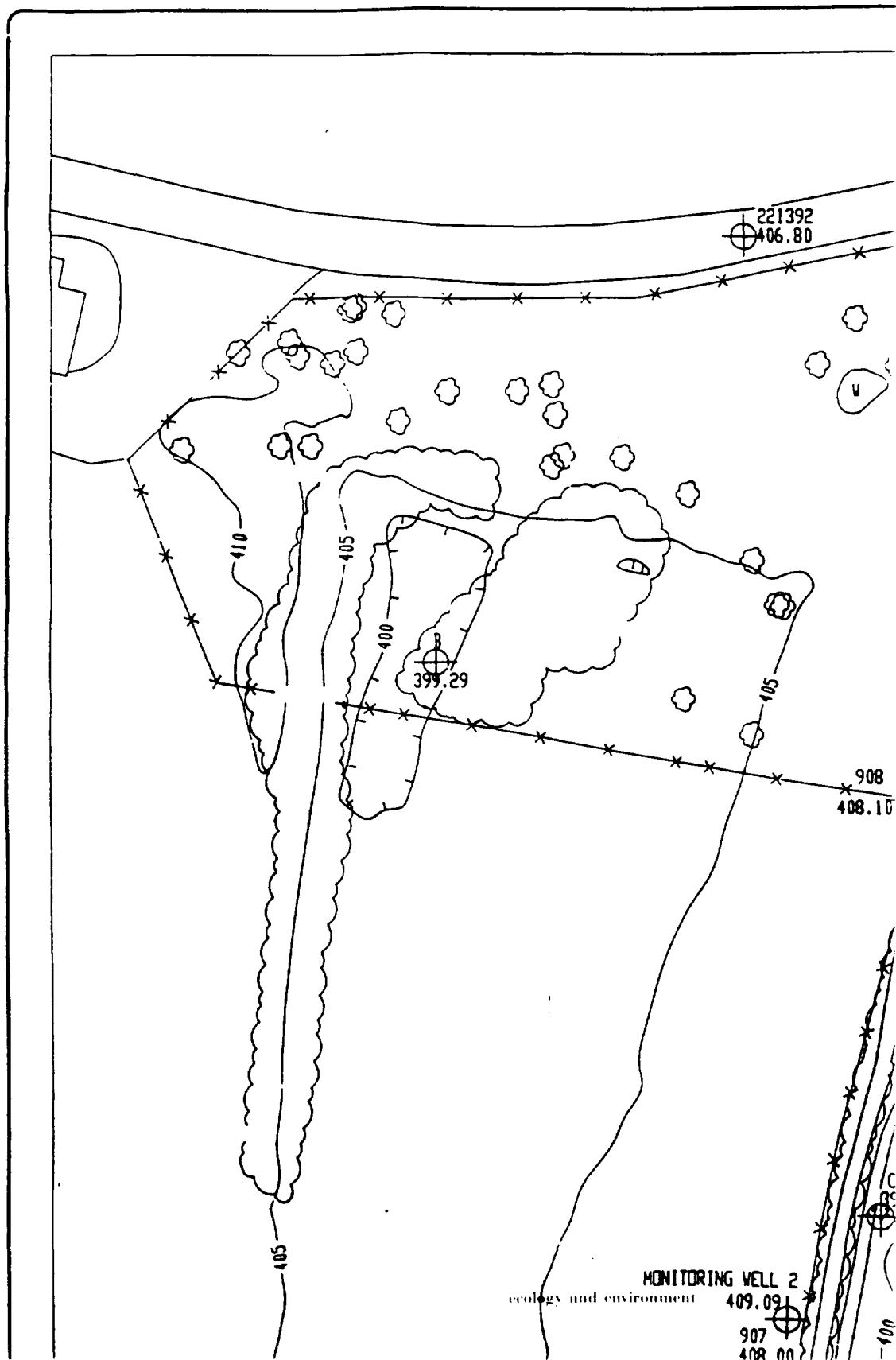
Sample Number		B-B1	B-B3	B-B2	Maximum
Sample Depth (ft)		0-2	2-4	4-6	Concentration
Date Collected		10/18/91	10/18/91	10/18/91	Detected
Pesticides/PCBs					
Aroclor-1248		250 J	0.140 J	<0.110 J	250 J
Aroclor-1254		<230 J	<0.200 J	<0.220 J	ND
Aroclor-1260		<230 J	<0.200 J	<0.220 J	ND
Total PCBs		250	0.140	0	250

mg/kg - Milligrams per kilogram

J - Estimated value

ND - Not detected

recycled paper



# SAUGET Analytical Data Site G

## Soil SAMPLES Volatile Organic Compounds (µg/kg) Collected by IEPA

Sample Number Date Collected	x114 11/11/94	x115 11/11/94	x116 11/11/94	Maximum Detected
VOC				
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	49	28	270	270
Acetone	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
1,2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

µg/kg - Micrograms per kilogram  
ND - Not detected

**SAUGET Analytical Data  
Site G**

**Soil SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by IEPA**

	Sample Number	x114	x115	x116	Maximum
	Date Collected	11/11/94	11/11/94	11/11/94	Detected
<b>BNAs</b>					
Phenol		ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND
Isophorone		ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND
2,4-Dimethylphenol		ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND
Naphthalene		ND	240 J	ND	240
4-Chloroaniline		ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND
2-Methylnaphthalene		ND	70 J	ND	70
Hexachlorocyclopentadiene		ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND
Acenaphthene		ND	340 J	ND	340

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**Soil SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by IEPA**

recycled paper

Sample Number	x114	x115	x116	Maximum
Date Collected	11/11/94	11/11/94	11/11/94	Detected
<b>BNAs</b>				
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Carbazole	ND	ND	ND	ND
Di-n-butyl phthalate	230 J	430 J	ND	430
Fluoranthene	86 J	ND	ND	86
Pyrene	89 J	ND	ND	89
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	650 B	1000 B	ND	1000
Di-n-octyl phthalate	ND	ND	ND	ND
Chrysene	59 J	ND	ND	59
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

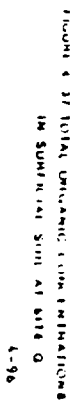
**Soil SAMPLES  
Pesticides/PCBs (µg/kg)  
Collected by IEPA**

Sample Number		x114	x115	x116	Maximum
Date Collected		11/11/94	11/11/94	11/11/94	Detected
<b>Pesticides/PCBs</b>					
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	15000	15000
Aroclor-1254		88 P	440	29000	29000
Aroclor-1260		180	550	46000	46000

µg/kg - Micrograms per kilogram

ND - Not detected.

P - Greater than 25% difference exists for the detected concentrations between the two GC columns. The lower of the results is reported







Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

MEMORANDUM

Date: December 30, 1994  
From: Paul E. Takács, <sup>12</sup>IEPA/ECL/NPL  
To: Monica Rebbe, IDPH  
Subject: L1630200005 -- St. Clair County  
Sauget Sites (Area 1, Area 2) -- Sauget  
Superfund/Technical Reports

The primary purpose of this memorandum is to present and interpret the results from a sampling event that IEPA was tasked to perform on November 9 and 10, 1994 at the Sauget Area 1 and Area 2 Sites. This sampling entailed the collection of sixteen surface soil samples within Site Q and near Site G (see Attachment A).

As outlined in the September 6 proposal to the Illinois Department of Public Health (IDPH) (see Attachment B), the objective of the sampling event was to gather data on areas in the Sauget and Cahokia area that were impacted by last year's flooding. This project represents a cooperative effort between IEPA and IDPH. All analytical costs were paid for by IDPH.

Actual field sampling was performed by Tom Miller and Doug Hayward of IEPA's Collinsville office with Monica Rebbe (IDPH) and Paul Takacs (IEPA) providing general oversight and assistance. The sixteen soil samples were sent to Applied Research and Development Laboratory (ARDL) in Mt. Vernon for analysis. ARDL was picked because of its proximity to the site.

Each sample was collected with a stainless steel spoon, sealed in a glass jar and packed with blue ice before shipping as per normal IEPA guidelines. One trip blank was sent to ARDL along with each group of samples that were taken on both days. All samples arrived at ARDL on the same day they were taken. Analyses were then run for volatile and semivolatile organic compounds, pesticides, PCBs and inorganics. As per the Health and Safety Plan (Attachment C), the sampling was performed in Level C protection.

### Inorganics

In general, the samples ranged from very low to high levels of contamination. The first group of samples were taken in the east borrow pit of Site Q. Previous site visits have noted two large mounded areas near the west-central portion of this pit. Two soil samples each were taken around the edges of both mounds where drums and waste piles were exposed. Sample X101 was a grayish waste

9 6 0 5 6 3 0 0 4 7 5

levels of VOCs. VOCs at X101 consisted of chlorinated solvents and associated degradation products (1,2-DCA @ 240ppb, 1,1-DCE @ 24ppb and 1,1,1-TCA @ 10Jppb). There were also minor levels of BTX compounds, methylene chloride and acetone in this sample and a few others. X106 had a 1,1,1-TCA concentration of 18ppb. X115 and X116 had methylene chloride concentrations of 28ppb and 630Eppb, respectively (analyses at these locations did not flag these compounds as laboratory contaminants).

#### Semivolatile Compounds

With the exception of PNAs and the tentatively identified compounds (TICs), most of the samples did not show high measurable levels of semivolatile compounds. The analytical results may be somewhat misleading, however, because of the presence of very high levels of BEHP in the laboratory blanks. Because of these levels (up to 110,000,000Bppb), detection levels were very high and the presence of certain semivolatile compounds could have been masked. Sample X107 had a total concentration of 1030Jppb of 2-methylphenol, 4-methylphenol, isophorone and 2,4-dimethylphenol. As far as PNAs were concerned; X108 had PNAs at 310Jppb, X109 at 1182Jppb, X110 at 380Jppb and X111 at 723Jppb. Most of the TICs consisted of phthalates and unknown compounds. X115 had 55,200Jppb of TICs and X116 had 66,100,000Jppb. Many of the other samples had various phthalates on TIC sheets that ranged from 0 to 83,890,000Jppb.

#### Pesticides and PCBs

ARDL did not note any measurable levels of pesticides, but PCBs did show up with high levels at several locations. The more significant total PCB concentrations were 223,000ppb at X101, 26,000ppb at X104, 31,900ppb at X105DL, 39,000ppb at X107DL, 79,000ppb at X108DL and 90,000ppb at X116DL. Aroclors 1254 and 1260 were prevalent in most samples and Aroclor 1248 showed up at X103, X107, X108 and X116. Various PCB precursors also were noted on the semivolatile TIC sheets for several samples.

#### Conclusions

In general, the presence of the phthalate compounds caused very high detection limits in many of the samples that most likely masked the presence of sample contaminants. Also, given the appearance of the sample materials, the contaminant levels appeared to be lower than what was expected.

Samples of the mounded waste materials were rather high in metals, indicating the possible presence of paint sludge materials. Samples here also showed high levels of PCBs which indicated that the source of PCBs found in sediments of the east borrow pit might have originated from the mound or drums around the mound.

The presence of rather low pH levels at several of the samples

material that had fairly high levels of antimony (157ppm), cadmium (2,260ppm), chromium (3,650ppm), lead (7,690ppm), mercury (4.9ppm), nickel (153ppm), selenium (59.9ppm) and cyanide (3.3ppm). Sample X102 was a white crumbly waste. It had only low levels of inorganic contamination with magnesium (4,259ppm) being most significant. The next sample, X103 was a bluish-grey waste that had high levels of antimony (17,900ppm), arsenic (216ppm), copper (1,630ppm), lead (195,000ppm) and silver (30.2ppm). Sample X104, similar to X102, contained the white crumbly substance that had similar contaminants (magnesium @ 4,600ppm). Samples X105 and X106 were both located in waste piles near the northern portion of the borrow pit along the west boundary. X105 was a grayish crystalline substance, which did not appear to have inorganic contamination (although the sample did have a pH of 2.6). X106 was a light blue flaky material that also did not appear to have significant inorganic contamination. Samples X107 and X108 were also taken at the northern portion of the pit. X107 was taken on a ridge of what appeared to be waste material, although the reddish material resembling clay in this sample did not appear to have significant inorganic contamination. X108 was the northernmost sample taken in the east borrow pit. It was dark grey in color and had rather significant concentrations of lead (571ppm).

Samples X109, X110 and X111 were collected along the east bank of the west borrow pit with X109 and X110 taken from one waste pile that resembled the one X105 and X106 came from in the other borrow pit. X109 was a reddish grey waste that did not contain high levels of organics, while X110 contained antimony (47.6ppm), arsenic (19.3ppm), copper (226ppm), lead (5,320ppm), nickel (371ppm), and silver (28.9ppm). Both samples also had pH's (3.6 and 3.7, respectively). Sample X111 was a grayish-white material collected south of the above-mentioned samples and contained nickel (25.9ppm) and vanadium (23.1ppm).

Samples X112 and X113 were taken along the river bank, just south of Site R. Both samples contained a hard blackish substance that appeared to have been disposed of in drums. X112 contained notable levels of cadmium (56.2ppm) and zinc (10,300ppm), while X113 was found to contain magnesium (4,710ppm).

The remaining samples (X114, X115 and X116) were collected around Site G. Both X114 and X115 were soil samples collected in lower elevation areas to the south of the southern Site G fence that could have received runoff from Site G. These samples showed rather high levels of copper (675ppm in X114 and 1,150ppm in X115), lead (172ppm in X114), nickel (32.7ppm in X114 and 38.5ppm in X115) and vanadium (23.3ppm in X114 and 22.7ppm in X115). The last sample (X116) was located in a ridge off of the southwest corner of Site G. X116 which was a brownish waste material containing significant levels of copper (515ppm), mercury (4.7ppm) and high levels of zinc (38,200ppm).

#### **Volatile Organic Contaminants**

Only X101, X106, X115 and X116 showed any significant measurable

**Site H Data**



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## SAUGET Analytical Data

Site H

## SUBSURFACE SOIL SAMPLES

Volatile Organic Compounds (µg/kg)

Collected by Ecology &amp; Environment, Inc. (12/86-1/87)

recycled paper

Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
VOC							BLANK			
Chloromethane	ND	ND	ND	ND	ND	ND	66	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	710 BJ	13 J	13137 B	52 B	38 B	55600 B	59 B	39 B	32 B	38 B
Acetone	7099 B	30 B	21140 B	461 B	1135 BE	18070 B	49 B	15 BJ	2835 BE	319 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	192	63	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	12 J	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	10968 B	ND	27180 B	ND	ND	25020 B	ND	ND	ND	33
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	10 J	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	61290	4 J	22650	256	71	22240	ND	ND	19	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	7852 J	909 E	554	ND	14 J	ND	9 J	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5645	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	25806	ND	11174	486	145	76450	ND	ND	ND	ND
Chlorobenzene	461613 E	24	120800	307	77	12788	ND	ND	ND	ND
Ethylbenzene	10000	ND	4379 J	ND	ND	12788	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	19355	ND	1510 J	ND	ND	23630	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value - Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

Site H

## SUBSURFACE SOIL SAMPLES

Volatile Organic Compounds ( $\mu\text{g/kg}$ )

Collected by Ecology &amp; Environment, Inc. (1/87-2/87)

	Sample Number	DC-H8-24	DC-H9-28	Maximum
	Sample Depth (ft)	5-15	15-25	Concentration
	Date Collected	1/9/87	1/13/87	Detected
VOC				
Chloromethane		ND	ND	66
Bromomethane		ND	ND	ND
Vinyl chloride		ND	ND	ND
Chloroethane		ND	ND	ND
Methylene chloride		38 B	6 BJ	55600 B
Acetone		754 BE	1524 BE	21140 B
Carbon Disulfide		ND	ND	ND
1,1-Dichloroethene		ND	ND	ND
1,1-Dichloroethane		ND	ND	ND
trans-1,2-Dichloroethene		ND	ND	ND
Chloroform		ND	ND	192
1,2-Dichloroethane		ND	ND	12 J
2-Butanone (MEK)		ND	36 B	27180 B
1,1,1-Trichloroethane		ND	ND	ND
Carbon Tetrachloride		ND	ND	ND
Vinyl Acetate		ND	ND	ND
Bromodichloromethane		ND	ND	ND
1,2-Dichloropropane		ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND
Trichloroethene		ND	ND	10 J
Dibromochloromethane		ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND
Benzene		ND	ND	61290
cis-1,3-Dichloropropene		ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND
Bromoform		ND	ND	ND
4-Methyl-2-pentanone		ND	ND	7852 J
2-Hexanone		ND	ND	ND
Tetrachloroethene		ND	ND	5645
1,1,2,2-Tetrachloroethane		ND	ND	ND
Toluene		ND	ND	76450
Chlorobenzene		ND	ND	451813 E
Ethylbenzene		ND	ND	12788
Styrene		ND	ND	ND
Total Xylenes		ND	ND	23630

 $\mu\text{g/kg}$  - Micrograms per kilogram

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected

SAUGET Analytical Data  
Site H

SUBSURFACE SOIL SAMPLES

Base Neutrals/Acids (µg/kg)

Collected by Ecology & Environment, Inc. (12/86-1/87)

Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
BNA's							BLANK			
Phenol	ND	ND	ND	ND	422 J	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	241935 J	ND	13288 J	ND	ND	7645 J	ND	ND	ND	ND
1,4-Dichlorobenzene	30845161 E	1190	890000	ND	ND	68110	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	7923 J	ND	ND	ND	ND
1,2-Dichlorobenzene	19354839 E	548	90600	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	172 J	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	92 J	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	2640	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	741935	167 J	ND	294 J	330 J	8479 J	ND	ND	ND	ND
1,2,4-Trichlorobenzene	7580845	4048	211400	ND	145 J	194600	ND	ND	61 J	ND
Naphthalene	ND	ND	2265000	282 J	1320	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Methylnaphthalene	ND	ND	347300	ND	277 J	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	612903	179 J	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	377500	ND	251 J	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

Site H

## SUBSURFACE SOIL SAMPLES

Base Neutrals/Acids (µg/kg)

Collected by Ecology &amp; Environment, Inc. (12/86-1/87)

Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
BNAs							BLANK			
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	604000	205 J	1188	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	483200	ND	647	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	1834000 E	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	714	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	2114000	256 J	1320	ND	ND	947	47 J	ND
Anthracene	ND	ND	679500	ND	198 J	ND	ND	221 J	ND	ND
Di-n-butyl phthalate	ND	ND	25670 BJ	1152 B	1267 B	ND	1126 B	824 B	878 B	1062 B
Fluoranthene	ND	ND	1330000	ND	145 J	ND	ND	972	ND	ND
Pyrene	ND	ND	664400	ND	ND	ND	ND	935	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	377500	ND	ND	ND	ND	554	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	251 J	ND	ND	541	ND	614
Chrysene	ND	ND	332200	ND	ND	ND	ND	750	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	211400	ND	ND	ND	ND	1021	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	271800	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	135900	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	113250	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	31710 J	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected



**SAUGET Analytical Data  
Site H**

**SUBSURFACE SOIL SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (12/86-1/87)**

recycled paper

Sample Number	DC-H8-24	DC-H9-28	Maximum
Sample Depth (ft)	5-15	15-25	Concentration
Date Collected	1/9/87	1/13/87	Detected
<b>BNAs</b>			
Phenol	ND	ND	422 J
bis(2-Chloroethyl)ether	ND	ND	ND
2-Chlorophenol	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	241935 J
1,4-Dichlorobenzene	62 J	ND	30645161 E
Benzyl Alcohol	ND	ND	7923 J
1,2-Dichlorobenzene	ND	ND	19354839 E
2-Methylphenol	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND
4-Methylphenol	ND	ND	172 J
N-Nitroso-n-Dipropylamine	ND	ND	ND
Hexachloroethane	ND	ND	ND
Nitrobenzene	ND	ND	ND
Isophorone	ND	ND	ND
2-Nitrophenol	ND	ND	ND
2,4-Dichlorophenol	ND	ND	92 J
Benzoic Acid	ND	ND	2640
bis-(2-Chloroethoxy)methane	ND	ND	ND
2,4-Dichlorophenol	ND	ND	741935
1,2,4-Trichlorobenzene	ND	ND	7580645
Naphthalene	44 J	ND	2265000
4-Chloroaniline	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND
2-Methylnaphthalene	156 J	ND	347300
Hexachlorocyclopentadiene	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	612903
2,4,5-Trichlorophenol	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND
3-Nitroaniline	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND
Acenaphthylene	130 J	ND	377500
8-Nitroaniline	ND	ND	ND
Acenaphthene	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected.

**SAUGET Analytical Data  
Site H**

**SUBSURFACE SOIL SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (12/86-1/87)**

	Sample Number	DC-H8-24	DC-H8-28	Maximum
	Sample Depth (ft)	5-15	15-25	Concentration
	Date Collected	1/9/87	1/13/87	Detected
<b>BNAs</b>				
2,4-Dinitrophenol		ND	ND	ND
4-Nitrophenol		ND	ND	ND
Dibenzofuran		143 J	ND	604000
2,4-Dinitrotoluene		ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND
Diethylphthalate		ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND
Fluorene		247 J	ND	483200
4-Nitroaniline		ND	ND	1834000 E
4,6-Dinitro-2-methylphenol		ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	6681 J
4-Bromophenyl-phenylether		ND	ND	ND
Hexachlorobenzene		ND	ND	714
Pentachlorophenol		ND	ND	ND
Phenanthrene		169 J	ND	2114000
Anthracene		129 J	ND	679500
Di-n-butyl phthalate		1014 B	343 BJ	25670 BJ
Fluoranthene		351 J	ND	1330000
Pyrene		1209	ND	664400
Butyl Benzyl phthalate		ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND
Benzo (a)anthracene		1157	ND	377500
bis(2-ethylhexyl)phthalate		ND	305 J	614
Chrysene		3380	ND	332200
Di-n-octyl phthalate		ND	ND	ND
Benzo(b)fluoranthene		442	ND	211400
Benzo(k)fluoranthene		ND	ND	ND
Benzo (a)pyrene		780	ND	271800
Indeno(1,2,3-cd)pyrene		ND	ND	135900
Benzo(g,h,i)perylene		494	ND	113250
Dibenzo(a,h)anthracene		ND	ND	31710 J

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample.

E - Estimated value - Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

# SAUGET Analytical Data Site H

## SUBSURFACE SOIL SAMPLES

Pesticides/PCBs ( $\mu\text{g/kg}$ )

Collected by Ecology &amp; Environment, Inc. (12/86-1/87)

Pesticides/PCBs	Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
	Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
	Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
								BLANK			
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND	ND	504	ND	ND
Endrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND	431	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND	923	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260		985483	1130 J	139524	ND	251	18000000	205	5166	1755	ND

 $\mu\text{g/kg}$  - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site H**

**SUBSURFACE SOIL SAMPLES  
Pesticides/PCBs (µg/kg)  
Collected by Ecology & Environment, Inc. (1/87)**

	Sample Number	DC-H8-24	DC-H9-28	Maximum
	Sample Depth (ft)	5-15	15-25	Concentration
	Date Collected	1/9/87	1/13/87	Detected
<b>Pesticides/PCBs</b>				
Alpha-BHC		ND	ND	ND
Beta-BHC		ND	ND	ND
Delta-BHC		ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND
Heptachlor		ND	ND	ND
Aldrin		ND	ND	ND
Heptachlor Epoxide		ND	ND	ND
Endosulfan I		ND	ND	ND
Dieldrin		ND	ND	ND
4,4'-DDE		780	ND	780
Endrin		ND	ND	ND
Endosulfan II		ND	ND	ND
4,4'-DDD		ND	ND	431
Endosulfan sulfate		ND	ND	ND
4,4'-DDT		780	ND	923
Methoxychlor		ND	ND	ND
Endrin Ketone		ND	ND	ND
Chlordane		ND	ND	ND
Toxaphene		ND	ND	ND
Aroclor-1016		ND	ND	ND
Aroclor-1221		ND	ND	ND
Aroclor-1232		ND	ND	ND
Aroclor-1242		ND	ND	ND
Aroclor-1248		ND	ND	ND
Aroclor-1254		ND	ND	ND
Aroclor-1260		ND	ND	18000000

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site H**

**SUBSURFACE SOIL SAMPLES**

**Total Metals (mg/kg)**

**Collected by Ecology & Environment, Inc. (12/86-1/87)**

Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
<b>Total Metals</b>							BLANK			
Aluminum	2403	1462	4015	450	697	7167	10974	7074	2811	2282
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	26 *	3 *	7 R	15 R	13 R	388 R	6 R	42 R	ND	ND
Barium	3242	38	1879	85	97	607	372	331	55	46
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	232	ND	5	ND	ND	294	ND	221	ND	ND
Chromium	100	4	97	ND	ND	51	15	56	6	5
Cobalt	19	3	105	ND	ND	47	6	8	ND	ND
Copper	374	3	415	13	12	2444	29	972	ND	ND
Iron	48226	3810	84545	510	564	54167	15641	27160	5905	4741
Lead	1150 *	4	174 R	5 R	4 R	4500 R	44 R	3827 R	4 R	3 R
Manganese	2403	51	621	7	9	2292	376	36543	78	71
Mercury	0.8	ND	ND	ND	ND	3.9	ND	ND	ND	ND
Nickel	15097	90	298	6	4	2083	17	42	9	9
Selenium	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	4 R	ND	ND	ND	ND	9	ND	44	ND	ND
Thallium	ND	ND	ND	ND	ND	ND	ND	1	ND	ND
Tin	111	ND	14	ND	ND	40	ND	ND	ND	ND
Vanadium	95	ND	ND	ND	ND	28	27	28	9	7
Zinc	39516	39	248	8	10	3875	153	8099	23	15
Cyanide	2	ND	2	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram.

ND - Not detected

R - Spike sample recovery not within control limits

D - Duplicate analysis not within control limits

**SAUGET Analytical Data  
Site H**

**SUBSURFACE SOIL SAMPLES  
Total Metals (mg/kg)  
Collected by Ecology & Environment, Inc. (1/87)**

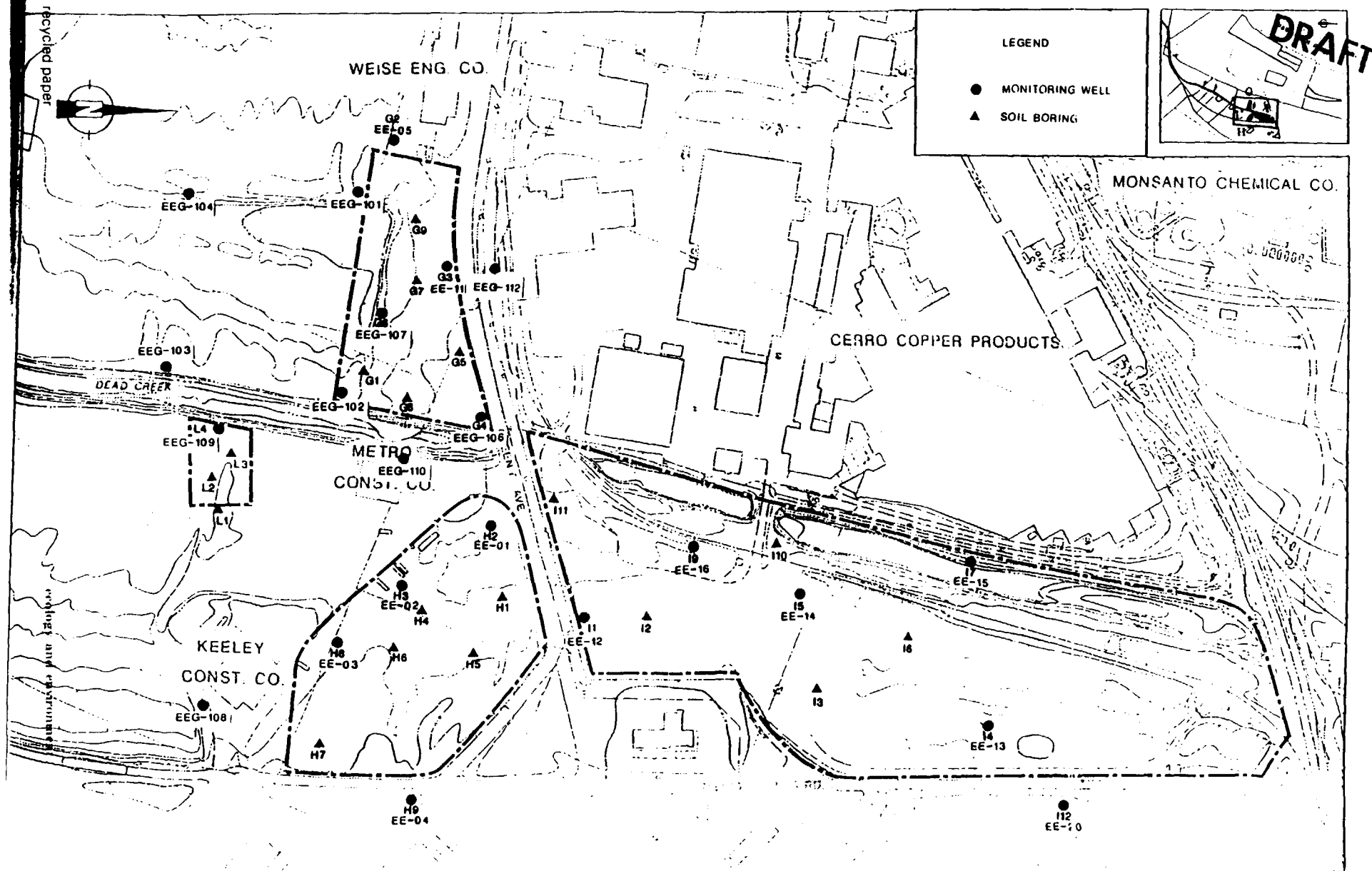
	Sample Number	DC-H8-24	DC-H9-28	Maximum
	Sample Depth (ft)	5-15	15-25	Concentration
	Date Collected	1/9/87	1/13/87	Detected
<b>Total Metals</b>				
Aluminum		12117	2203	12117
Antimony		ND	ND	ND
Arsenic		4 R	3 R	388 R
Barium		218	52	3242
Beryllium		ND	ND	ND
Boron		ND	ND	ND
Cadmium		ND	ND	294
Chromium		18	ND	100
Cobalt		ND	ND	105
Copper		51	ND	2444
Iron		20519	5215	84545
Lead		60 R	5 R	4500 R
Manganese		336	66	36543
Mercury		1.4	ND	3.9
Nickel		16	ND	15097
Selenium		ND	ND	2
Silver		ND	ND	44
Thallium		ND	ND	1
Tin		ND	ND	111
Vanadium		27	ND	95
Zinc		308	20	39516
Cyanide		ND	ND	2

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Duplicate analysis not within control limits



SOURCE: Ecology and Environment, Inc., 1988.

FIGURE 3-7 MONITORING WELL AND BORING LOCATIONS AT AREA 1

**Site L Data**

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**SAUGET Analytical Data**  
**Site L**

**SOIL SAMPLES**  
**PCBs**  
**Collected by IEPA**

recycled paper

Paramter	Sample Number	X-1	X-2	Maximum
	Date Collected	01/28/81	01/28/81	Detected
	Units	mg/kg	µg/kg	mg/kg
<b>Total PCBs</b>		<b>74</b>	<b>75</b>	<b>74</b>

mg/kg - Milligrams per kilogram  
PCB - Polychlorinated biphenyl  
µg/kg - Micrograms per kilogram

ecology and environment

Priority

Time: 2:05 pm  
Date: 1-28-81

Lab # DO12727  
Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY: St. Clair FILE HEADING: Coker/Kia/Dead Creek FILE NUMBER: General

SOURCE OF SAMPLE: (Exact Location) sample X-1 was collected from a field from a point ~100 yds west of 6108

PHYSICAL OBSERVATIONS, REMARKS: sample is a sludge like oily-tar like substance having a similar type odor

TESTS REQUESTED: F.C.B.'s + Chlorinated Hydrocarbons

COLLECTED BY: Perry Mann + Tom Powell TRANSPORTED BY: Perry Mann  
LABORATORY

RECEIVED BY: CMC DATE COMPLETED: 3-14-81 DATE FORWARDED: 3-14-81  
J. Hurley

14 PCM

X-2

Priority

DO19728

Tab # 10012728  
Date Collected: 2/10/81  
1-28-81

SPECIAL ANALYSIS FORM

Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

St. Clair

FILE HEADING:

Cal. Kia / Dead Creek

FILE NUMBER:

General

SOURCE OF SAMPLE: (Exact location)

Sample X-2 was collected from the wheat field immediately adjacent to where X-1 was collected

PHYSICAL OBSERVATIONS, REMARKS:

sample generally appears to be uncontaminated top soil.

TESTS REQUESTED:

P.C.B.'s + Chlorinated Hydrocarbons

COLLECTED BY: PERRY MANN + TOM POWELL TRANSPORTED BY: PERRY MANN

LABORATORY

RECEIVED BY:

CMC

DATE

COMPLETED:

3-19-81

DATE

FORWARDED:

3-19-81

D. Hickey

75 PCB

**SAUGET Analytical Data**  
**Site L**

**SUBSURFACE SOIL SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (12/86)**

recycled paper

Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
VOC	BLANK						
Chloromethane	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	17 B	14 B	141 B	2278 B	8	5 J	2278 B
Acetone	32 B	907 B	449 B	4557 B	32 B	81 B	4557 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	20253	96	49	20253
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	16	ND	10000 B	16 B	ND	10000 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	141	4177	7 J	4 J	4177
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	8 J	167	ND	68 B	49 B	167
2-Hexanone	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	2179	26582	93	50	26582
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	40 J	ND	ND	ND	40 J
Styrene	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	179	670 J	ND	ND	670 J

µg/kg - Micrograms per kilogram.

B - Compound detected in blank sample

J - Estimated value.

ND - Not detected.

**SAUGET Analytical Data**  
**Site L**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
Collected by Ecology & Environment, Inc. (12/86)

Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
<b>BNAs</b>	BLANK						
Phenol	ND	ND	346 J	1519 J	ND	ND	1519 J
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	2152	ND	ND	2152
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	215 J	ND	ND	215 J
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	88 J	1089 J	ND	ND	1089 J
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	49 J	49 J
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	154 J	532 J	ND	ND	532 J
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	333 J	1000 J	ND	ND	1000 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	44 J	ND	ND	ND	44 J

µg/kg - Micrograms per kilogram.

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site L**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (12/86)**

Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
<b>PNAs</b>	BLANK						
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	310 J	310 J
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	11538	58228	ND	ND	58228
Phenanthrene	45 J	ND	802	1772 J	ND	ND	1772 J
Anthracene	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	171 J	372 J	2784	ND	ND	2784
Fluoranthene	ND	ND	448	ND	ND	ND	448
Pyrene	ND	ND	282 J	ND	ND	ND	282 J
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	911 J	ND	ND	911 J
bis(2-ethylhexyl)phthalate	ND	ND	1217	ND	750	1297	1297
Chrysene	ND	ND	205 J	ND	ND	ND	205 J
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site L**

**SUBSURFACE SOIL SAMPLES**  
**Pesticides/PCBs (µg/kg)**  
**Collected by Ecology & Environment, Inc. (12/86)**

<b>Sample Number</b>		<b>DC-LB-01</b>	<b>DC-L1-02</b>	<b>DC-L2-03</b>	<b>DC-L3-04</b>	<b>DC-L4-09</b>	<b>DC-L4-10</b>	<b>Maximum</b>
<b>Sample Depth (ft)</b>		<b>NA</b>	<b>5-10</b>	<b>5-15</b>	<b>5-15</b>	<b>10-20</b>	<b>10-20</b>	<b>Concentration</b>
<b>Date Collected</b>		<b>12/12/86</b>	<b>12/12/86</b>	<b>12/12/86</b>	<b>12/12/86</b>	<b>12/17/86</b>	<b>12/17/86</b>	<b>Detected</b>
<b>Pesticides/PCBs</b>		<b>BLANK</b>						
<b>Alpha-BHC</b>		ND	ND	ND	ND	ND	ND	ND
<b>Beta-BHC</b>		ND	ND	ND	ND	ND	ND	ND
<b>Delta-BHC</b>		ND	ND	ND	ND	ND	ND	ND
<b>Gamma-BHC (Lindane)</b>		ND	ND	ND	ND	ND	ND	ND
<b>Heptachlor</b>		ND	ND	ND	ND	ND	ND	ND
<b>Aldrin</b>		ND	ND	ND	ND	ND	ND	ND
<b>Heptachlor Epoxide</b>		ND	ND	ND	ND	ND	ND	ND
<b>Endosulfan I</b>		ND	ND	ND	ND	ND	ND	ND
<b>Dieldrin</b>		ND	ND	ND	ND	ND	ND	ND
<b>4,4'-DDE</b>		ND	ND	ND	ND	ND	ND	ND
<b>Endrin</b>		ND	ND	ND	ND	ND	ND	ND
<b>Endosulfan II</b>		ND	ND	ND	ND	ND	ND	ND
<b>4,4'-DDD</b>		ND	ND	ND	ND	ND	ND	ND
<b>Endosulfan sulfate</b>		ND	ND	ND	ND	ND	ND	ND
<b>4,4'-DDT</b>		ND	ND	ND	ND	ND	ND	ND
<b>Methoxychlor</b>		ND	ND	ND	ND	ND	ND	ND
<b>Endrin Ketone</b>		ND	ND	ND	ND	ND	ND	ND
<b>Chlordane</b>		ND	ND	ND	ND	ND	ND	ND
<b>Toxaphene</b>		ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1016</b>		ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1221</b>		ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1232</b>		ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1242</b>		ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1248</b>		ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1254</b>		ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1260</b>		ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.

ND - Not detected

**SAUGET Analytical Data  
Site L**

**SUBSURFACE SOIL SAMPLES  
Total Metals (mg/kg)  
Collected by Ecology & Environment, Inc. (12/86)**

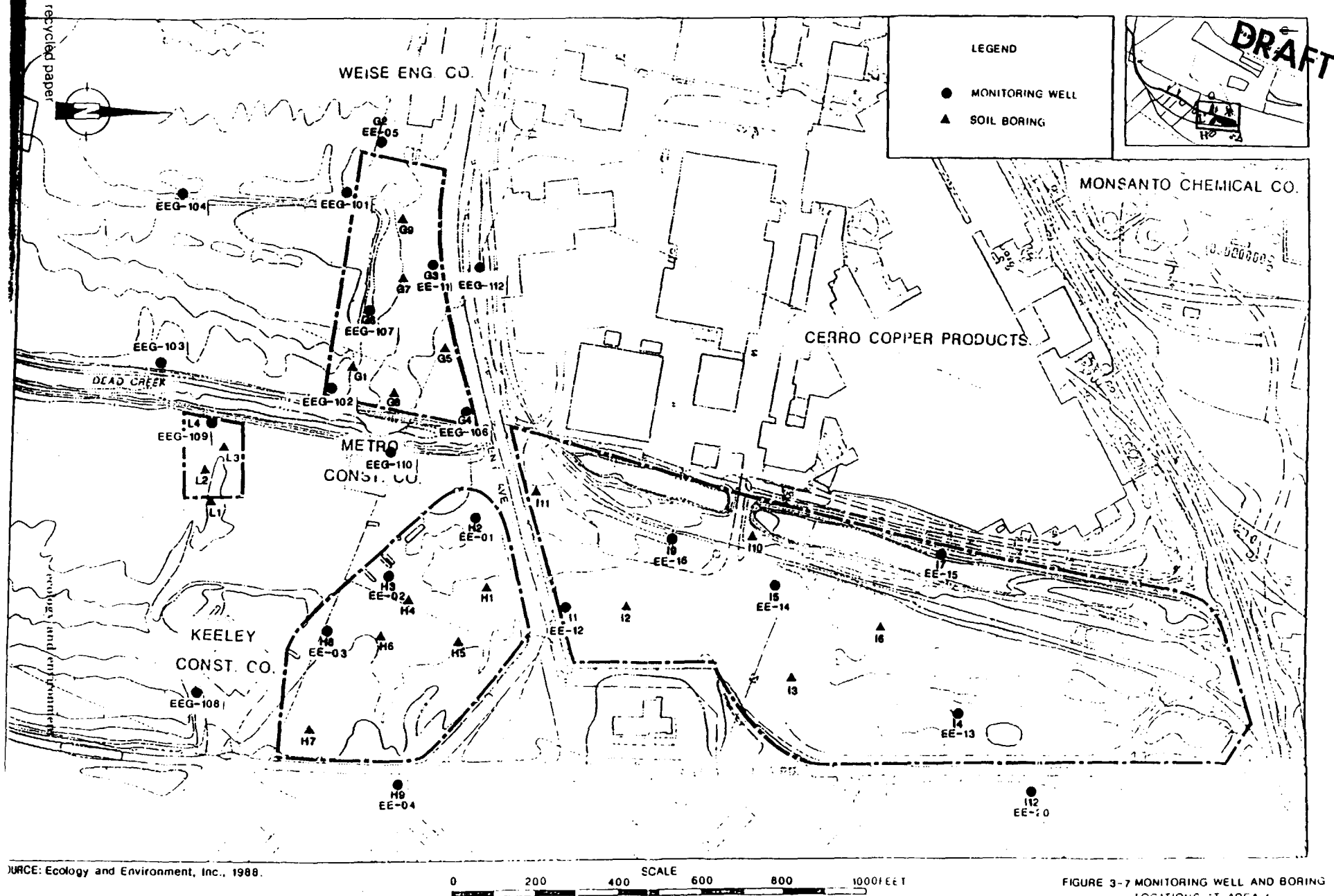
Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
<b>Total Metals</b>	BLANK						
<b>Aluminum</b>	9397	10697	5205	7380	1120	1378	10697
<b>Antimony</b>	ND	ND	32	ND	ND	ND	32
<b>Arsenic</b>	6 *	5 *	ND	172	55 *	68 *	172
<b>Barium</b>	410	197	192	192	114	142	410
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	ND	ND	6	ND	ND	ND	6
<b>Chromium</b>	ND	16	15	10	ND	3	16
<b>Cobalt</b>	ND	6	9	9	ND	ND	9
<b>Copper</b>	ND	12	105	141	82	101	141
<b>Iron</b>	13848	16053	5564	11899	1500	1446	16053
<b>Lead</b>	43 *	9 *	106	41	5 *	5 *	106
<b>Manganese</b>	345	255	44	149	10	10	345
<b>Mercury</b>	ND	ND	ND	0.1	ND	ND	0.1
<b>Nickel</b>	14	21	408	2392	83	93	2392
<b>Selenium</b>	ND	ND	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	22	25	10	19	ND	ND	25
<b>Zinc</b>	178	59	144	166	11	10	178
<b>Cyanide</b>	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

\* - Duplicate analysis not within control limits





SAUGET Analytical Data  
Site L

SEDIMENT SAMPLES  
Volatile Organic Compounds (mg/kg dry weight)  
Collected by Geraghty & Müller

recycled paper

Sample Number	L1 (LB-16/LB-17)	L1 (LB-17)	L2 (LB-13)	L3 (LB-14)	L4 (LB-12)	L5 (LB-10)	BLANK	Maximum
Sample Depth (ft)	3'-8"	8'-14"	8'-10"	9'-11"	8'-10"	7'-8.5"	NA	Concentration
Date Collected	10/16/91	10/16/91	10/15/91	10/16/91	10/15/91	10/15/91	10/16/91	Detected
VOC							(µg/L)	
Methylene chloride	< 0.89 J	< 3.1 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5	ND
Acetone	< 1.3 J	< 5.8 J	< 32 J	0.015 J	< 0.013 J	< 0.014 J	< 10	0.015 J
Carbon Disulfide	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5	ND
2-Butanone (MEK)	< 1.3 J	< 5.8 J	< 32 J	< 0.023 J	< 0.013 J	< 0.028 J	< 10	ND
Benzene	< 0.63 J	< 2.9 J	5.7 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	5.7 J
Tetrachloroethene	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5	ND
Toluene	4.5 J	32 J	400 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	400 J
Chlorobenzene	5.3 J	0.9 J	3.6 J	0.086 J	0.012 J	0.03 J	< 5 J	5.3 J
Ethylbenzene	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	ND
Xylenes	0.54 J	< 2.9 J	11 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	11 J
Chloroform	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	ND
1,1,1-Trichloroethane	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	ND

J - Estimated value  
mg/kg - Milligrams per kilogram  
ND - Not detected  
µg/L - Micrograms per liter

ecology and environment

## SAUGET Analytical Data

Site L

## SEDIMENT SAMPLES

Base Neutrals/Acids (mg/kg dry weight)

Collected by Geraghty &amp; Miller

Sample Number	L1 (LB-16/LB-17)	L1 (LB-17)	L2 (LB-13)	L3 (LB-14)	L4 (LB-12)	L5 (LB-10)	BLANK	Maximum
Sample Depth (ft)	3'-8"	8'-14"	8'-10"	9'-11"	8'-10"	7'-8' 5"		Concentration
Date Collected	10/16/91	10/16/91	10/15/91	10/16/91	10/15/91	10/15/91	10/16/91	Detected
BNAs							(µg/L)	
Phenol	13	13	16	< 0.46	< 0.42	< 0.45	< 10	16
2-Chlorophenol	< 3.3	< 3.8	2.6 J	< 0.46/0.013 J	< 0.42	< 0.45	< 10	2.6 J
1,3-Dichlorobenzene	4.3	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	4.3
1,4-Dichlorobenzene	93 E/100 D	3.2 J	13	0.028 J/0.018 J	< 0.42	< 0.45	< 10	100 D
1,2-Dichlorobenzene	7.7	2.9 J	3.4 J	< 0.46/0.01 J	< 0.42	< 0.45	< 10	7.7
4-Methylphenol	3.2 J	5.5	7.1	< 0.46	< 0.42	< 0.45	< 10	7.1
Isophorone	< 3.3	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	ND
2,4-Dimethylphenol	< 3.3	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	ND
2,4-Dichlorophenol	2.4 J	< 3.8	11	< 0.46	< 0.42	< 0.45	< 10	11
1,2,4-Trichlorobenzene	73 E/79 D	5.5	< 4.2	< 0.46	< 0.42	< 0.45	< 10	79 D
Naphthalene	7.3	< 3.8	< 4.2	< 0.46/0.096 J	< 0.42	< 0.45	< 10	7.3
4-Chloroaniline	13	270 E/260 D	49	0.320 J/0.043 J	< 0.42	< 0.45	< 10	270 E
2-Methylnaphthalene	2.3 J	1.6 J	3.1 J	< 0.46/0.021 J	< 0.42	< 0.45	< 10	3.1
2,4,6-Trichlorophenol	1.5 J	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	1.5 J
2,4,5-Trichlorophenol	< 17	< 19	< 21	< 2.3	< 2.1	< 2.3	< 10	ND
Acenaphthylene	0.28 J	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	0.28 J
Acenaphthene	3.1 J	< 3.8	< 4.2	< 0.46/0.083 J	< 0.42	< 0.45	< 10	3.1 J
Dibenzofuran	3 J	< 3.8	< 4.2	< 0.46/0.042 J	< 0.42	< 0.45	< 10	3 J
Diethyl phthalate	1 J	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	1 J
Fluorene	5	< 3.8	< 4.2	< 0.46/0.079 J	< 0.42	< 0.45	< 10	5
N-Nitrosodiphenylamine	< 3.3	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	ND
Hexachlorobenzene	4.8	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	4.8
Pentachlorophenol	28	29	< 21	< 2.3	< 2.1	< 2.3	< 50	29
Phenanthrene	23	< 3.8	< 4.2	0.091 J/0.42 J	< 0.42	< 0.45	< 10	23
Anthracene	4.2	< 3.8	< 4.2	0.028 J/0.15 J	< 0.42	< 0.45	< 10	4.2
Di-n-butyl phthalate	1.8 J	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	1.8 J
Fluoranthene	16	< 3.8	< 4.2	0.13 J/0.52	< 0.42	< 0.45	< 10	16
Pyrene	23	< 3.8	< 4.2	0.13 J/0.42 J	< 0.42	< 0.45	< 10	23
Butyl Benzyl phthalate	5.4	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	5.4
Benzo(a)anthracene	8.6	< 3.8	< 4.2	0.075 J/0.26 J	< 0.42	< 0.45	< 10	8.6
bis(2-ethylhexyl)phthalate	< 3.3	< 3.8	< 4.2	2.2 B/0.45	0.017 BJ	0.044 BJ	1 J	2.2 B
Chrysene	8.2	< 3.8	< 4.2	0.076 J/0.3 J	< 0.42	< 0.45	< 10	8.2
Benzo(b)fluoranthene	5.4	< 3.8	< 4.2	0.058 J/0.19 J	< 0.42	< 0.45	< 10	5.4
Benzo(k)fluoranthene	4.6	< 3.8	< 4.2	< 0.46/0.19 J	< 0.42	< 0.45	< 10	4.6
Benzo(a)pyrene	5.3	< 3.8	< 4.2	0.07 J/0.22 J	< 0.42	< 0.45	< 10	5.3
Indeno(1,2,3-cd)pyrene	2.9 J	< 3.8	< 4.2	< 0.46/0.11 J	< 0.42	< 0.45	< 10	2.9 J
Benzo(g,h,i)perylene	< 3.3	< 3.8	< 4.2	< 0.46/0.027 J	< 0.42	< 0.45	< 10	ND
Benzoic acid	3.2 J	< 3.8	< 4.2	< 0.46/0.049 J	< 0.42	< 0.45	< 10	3.2 J

B - Compound detected in blank sample.

D - Compound concentration is at a secondary dilution factor

E - Estimated value Concentration detected exceeds the calibrated range.

J - Estimated value

mg/kg - Milligrams per kilogram

Filename: SITE\W-2.XLS - Table: Sediment SVOCs

**SAUGET Analytical Data  
Site L**

**SEDIMENT SAMPLES  
PCBs (mg/kg dry weight)  
Collected by Geraghty & Miller**

Sample Number	L1 (LB-16/LB -17)	L1 (LB-17)	Equipment	Maximum
Sample Depth (ft)	3'-8'	8'-14'	Blank	Concentration
Date Collected	10/16/91	10/16/91	10/16/91	Detected
<b>PCBs</b>			µg/L	
<b>Aroclor-1248</b>	<b>120 J</b>	<b>&lt; 18 J</b>	<b>&lt; 0.5 J</b>	<b>120 J</b>
<b>Aroclor-1254</b>	<b>&lt; 310 J</b>	<b>&lt; 36 J</b>	<b>&lt; 1 J</b>	<b>ND</b>
<b>Aroclor-1260</b>	<b>380 J</b>	<b>16 J</b>	<b>&lt; 1 J</b>	<b>380 J</b>
<b>Total PCBs</b>	<b>500</b>	<b>16</b>	<b>0</b>	<b>500</b>

mg/kg - Milligrams per kilogram.

J - Estimated value.

µg/L - Micrograms per liter.

**SAUGET Analytical Data  
Site L**

**SEDIMENT SAMPLES  
Total Metals (mg/kg dry weight)  
Collected by Geraghty & Miller**

Sample Number	L1 (LB-16/LB-17)	L1 (LB-17)	L2 (LB-13)	L3 (LB-14)	L4 (LB-12)	L5 (LB-10)	Equipment	Maximum
Sample Depth (ft)	3'-8'	8'-14'	8'-10'	9'-11'	8'-10'	7'-8.5'	Blank	Concentration
Date Collected	10/16/91	10/16/91	10/15/91	10/16/91	10/15/91	10/15/91	10/16/91	Detected
Total Metals							µg/L	
Aluminum	7320	6660	3190	12800	5290	2810	< 200	12800
Antimony	< 11.6 J	< 12.3 J	< 12.6 J	< 13.7 J	< 12.8 J	< 13.6 J	< 50	ND
Barium	1440	235	1360	208	194	213	< 10	1440
Cadmium	42	< 1.2	< 1.3	< 1.4	< 1.3	< 1.4	< 5	42
Calcium	75500	18200	21300	22400	15500	15700	341 B	75500
Chromium	27	11	3.9	17.8	7.8	4.1	< 10	27
Cobalt	8.3 B	7.3 B	< 2.5	8.4 B	5.9 B	< 2.7	< 10	8.4 B
Copper	308 J	96.1 J	< 6.3 J	19.4 J	9.7 J	52.9 J	< 25	308 J
Iron	24000	12400	1400	21700	11800	1790	181	24000
Magnesium	6150	7210	705 B	9440	6570	384 B	< 50	9440
Manganese	636	269	88.1	782	259	10.1	< 10	782
Nickel	95.9 J	473 J	71.9 J	24.7 J	113 J	< 10.8 J	< 40	473 J
Potassium	1130 B	1390	975 B	2280	1090 B	993 B	< 1000	2280
Silver	< 2.3	< 2.5	< 2.5	< 2.7	< 2.6	< 2.7	< 10	ND
Sodium	< 295	< 347	< 226	< 303	< 332	< 136	997 B	997 B
Vanadium	27.6	19.7	131	35.4	15.6	7.7 B	< 10	131
Zinc	4240 J	364 J	756 J	77 J	35.6 J	6.4 J	< 20	4240 J
Mercury	1.8 J	0.19 J	0.01 J	0.03 J	0.01 J	0.02 J	< 0.2 J	1.8 J
Lead	664 J	106 J	6.3 J	11.7 J	7.6 J	8.7 J	< 3	664 J
Selenium	< 1.2 J	< 1.2 J	< 1.3 J	< 1.4	< 1.3 J	< 1.4 J	< 5	ND
Arsenic	49.2	90.9	66.7	10.1	4.9	12.6	< 10	90.9
Cyanide	0.46 J	< 0.31 J	NA	NA	NA	NA	< 10	0.46 J

mg/kg - Milligrams per kilogram

B - Compound detected in blank sample

J - Estimated value

NA - Parameter not analyzed

ND - Not detected

µg/L - Micrograms per liter

**SAUGET Analytical Data  
Site L**

**SUBSURFACE SOIL SAMPLES  
TCLP Metals (mg/L)  
Collected by Geraghty & Miller**

	Sample Number		GML1 (LB-16/LB-17)	GML1 (LB-17)	Maximum
	Well Number		3'-8'	8'-14'	Concentration
	Date Collected		10/16/91	10/16/91	Detected
Metals		Regulatory Limit			
Arsenic		5	< 0.2	< 0.2	ND
Barium		100	1.8 (1.7)*	1.4 (1.3)*	1.8
Cadmium		1	0.066 (0.059)*	0.021 (0.019)*	0.066
Chromium		5	< 0.05	< 0.05	ND
Lead		5	0.24 (0.22)*	< 0.2	0.24
Mercury		0.2	< 0.02	< 0.02	ND
Selenium		1	< 0.5	< 0.5	ND
Silver		5	< 0.01	< 0.01	ND

mg/L - Milligrams per liter.

ND - Not detected.

TCLP - Toxicity Characteristic Leaching Procedure

\* - sample analyzed twice

**SAUGET Analytical Data  
Site L**

**SUBSURFACE SOIL SAMPLES  
TCLP Volatile Organic Compounds (mg/L)  
Collected by Geraghty & Miller**

	Sample Number		GML1 (LB-16/LB-17)	GML1 (LB-17)	Maximum
	Sample Depth		3'-8'	8'-14'	Concentration
	Date Collected		10/16/91	10/16/91	Detected
VOC		Regulatory Limit			
Benzene		0.5	< 0.02	< 0.02	ND
Carbon Tetrachloride		0.5	< 0.02	< 0.02	ND
Chlorobenzene		100	0.041 (0.036)*	< 0.02	0.041
Chloroform		6	< 0.02	< 0.02	ND
1,2-Dichloroethane		0.5	< 0.02	< 0.02	ND
1,1-Dichloroethylene		0.7	< 0.02	< 0.02	ND
2-Butanone		200	< 0.04	< 0.04	ND
Tetrachloroethylene		0.7	< 0.02	< 0.02	ND
Trichloroethylene		0.5	< 0.02	< 0.02	ND
Vinyl chloride		0.2	< 0.04	< 0.04	ND
MISC					
Ignitability - Flash point		< 140 degrees F	non-ignitable	non-ignitable	
Corrosivity (pH units)		< 2 or > 12.5	8.2	8.4	8.4
Reactivity (mg/kg dw)					
Sulfide		500	71	24	71
Cyanide		250	< 1	< 1.1	ND

mg/L - Milligrams per liter

mg/kg dw - Milligrams per kilogram dry weight

ND - Not detected

TCLP - Toxicity Characteristic Leaching Procedure

\* - sample analyzed twice

**SAUGET Analytical Data  
Site L**

**SUBSURFACE SOIL SAMPLES  
TCLP Base Neutrals/Acids (mg/L)  
Collected by Geraghty & Miller**

Sample Number		GML1 (LB-16/LB-17)	GML1 (LB-17)	Maximum
Well Number		3'-8"	8'-14"	Concentration
Date Collected		10/16/91	10/16/91	Detected
<b>BNAs</b>		<b>Regulatory Limit</b>		
Cresol (o)		200	< 0.05	ND
Cresol (m,p)		200	0.17 (0.1)*	0.19
1,4-Dichlorobenzene		7.5	0.41 (0.33)*	0.41
2,4-Dinitrotoluene		0.13	< 0.05	ND
Hexachlorobenzene		0.13	< 0.05	ND
Hexachlorobutadiene		0.5	< 0.05	ND
Hexachloroethane		3	< 0.05	ND
Nitrobenzene		2	< 0.05	ND
Pentachlorophenol		100	< 0.25	ND
2,4,5-Trichlorophenol		400	< 0.25	ND
2,4,6-Trichlorophenol		2	< 0.05	ND
Pyridine		5	< 0.25	ND

mg/L - Milligrams per liter

ND - Not detected.

TCLP - Toxicity Characteristic Leaching Procedure

\* - sample analyzed twice



**SAUGET Analytical Data  
Site L**

**SUBSURFACE SOIL SAMPLES  
TCLP Pesticides (mg/L)  
Collected by Geraghty & Miller**

	Sample Number		GML1 (LB-16/LB-17)	GML1 (LB-17)	Maximum
	ISGS Location		3'-8'	8'-14'	Concentration
	Date Collected		10/16/91	10/16/91	Detected
Pesticides		Regulatory Limit			
Chlordane		0.03	< 0.005	< 0.005	ND
Endrin		0.02	< 0.001	< 0.001	ND
Heptachlor		0.008	< 0.0005	< 0.0005	ND
Heptachlor epoxide		0.008	< 0.0005	< 0.0005	ND
Lindane (g-BHC)		0.4	< 0.0005	< 0.0005	ND
Methoxychlor		10	< 0.025	< 0.025	ND
Toxaphene		0.5	< 0.05	< 0.05	ND
2,4-D		10	< 0.05	< 0.05	ND
Silvex (2,4,5-TP)		1	< 0.01	< 0.01	ND

mg/L - Milligrams per liter.

ND - Not detected.

TCLP - Toxicity Characteristic Leaching Procedure

DWG DATE: 28JAN82

PRJCT NO.: NY80508-

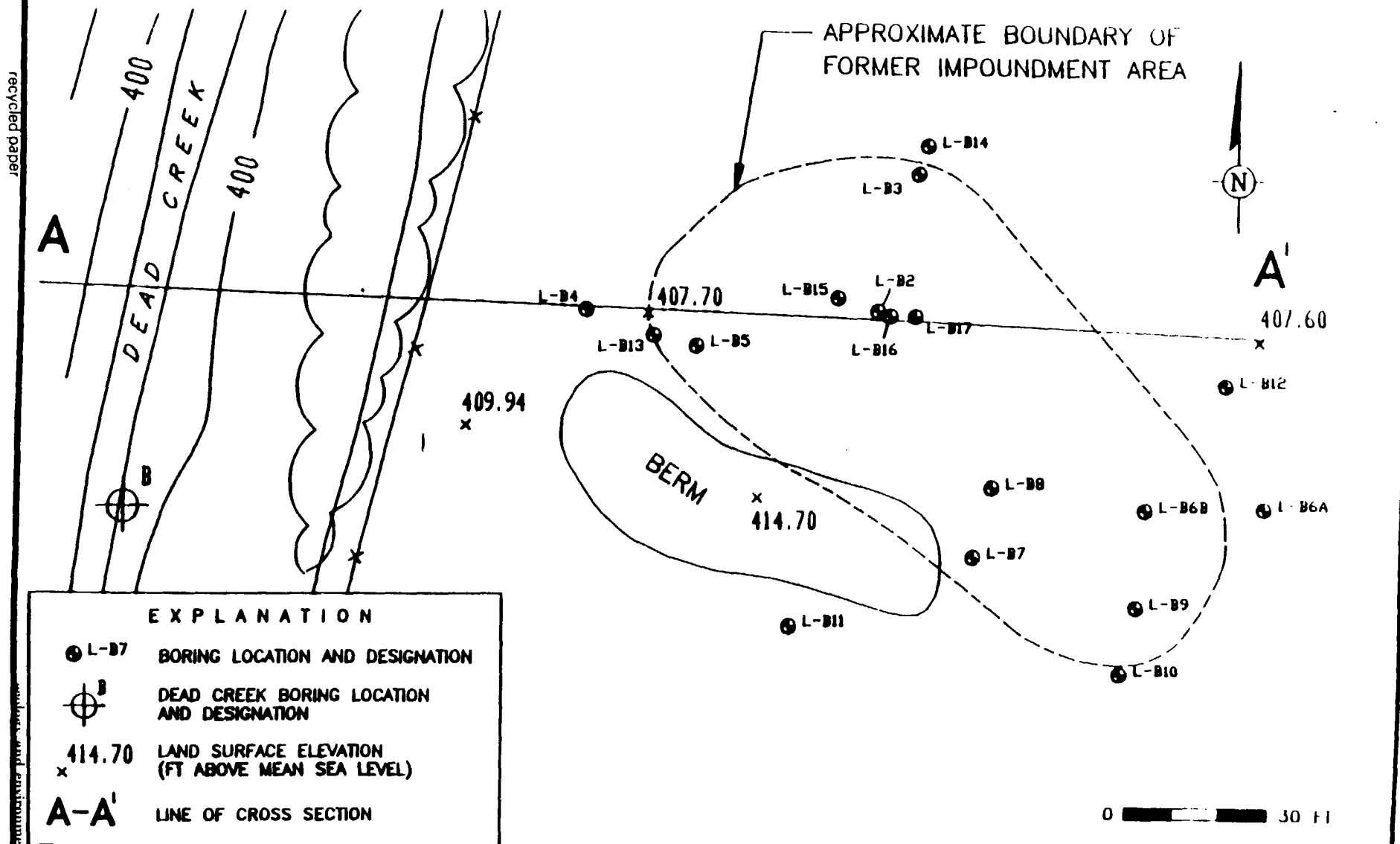
FILE NO.: 1444

DRAWING: AREA-L

CHECKED: B.A. BLUM

APPROVED: B.A. BLUM

DRAFTER: W.H. CULIO



**GERAGHTY & MILLER, INC.**  
Environmental Services

# BORING LOCATIONS SITE L, CAHOKIA, ILLINOIS

MONSANTO COMPANY

ST. LOUIS, MISSOURI

FIGURE

2-2

**Site I and CS-A**

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# **SITE NARRATIVE**

## **SITE I**

SITE NARRATIVE - SAUGET AREA 1 / Site I			
Sample Locations	Sampling Entity	Date Sampled	Data Source
I-1 thru I-12	E & E	1/27/87 to 2/4/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
<p><b>Nature and Extent of Contamination:</b></p> <p>VOC concentrations in subsurface soils at Site I ranged from 0.013 to 129.9 mg/kg for 12 of the 15 samples collected. BNA concentrations ranged from 4.9 to 10,967 mg/kg for 12 of 15 samples. Pesticide concentrations ranged from 29.7 to 492.8 mg/kg for 3 of 15 samples. PCBs ranged from 20.4 to 342.9 mg/kg for 5 of 15 samples collected. Contamination was detected at depths extending to 38 feet BGS. Metals, most notably Cd, Pb, and Cu, were elevated in most samples collected. Waste material was noted in several borings at depths below the water table. The extent of contamination is only fairly well defined due to the fact that only subsurface soils were collected. Waste volumes for Site I are estimated at 200,000 cubic yards of waste and contaminated fill in the south pit and 50,000 cubic yards in the north pit.</p>			
<p><b>Containment and Integrity (if known):</b></p> <p>There is no known constructed containment in place at Site I, other than the current fill material and crushed gravel that are in place at the surface. Most of the site is covered with compacted crushed gravel, and serves as a parking area for truck trailers. Based upon the available boring logs, no subsurface containment is in place in the area used for disposal. Access to the site is restricted through security fencing and 24-hour surveillance cameras.</p>			
<p><b>Other Comments:</b> See the attached "Site Description" for more site details.</p>			

## SITE DESCRIPTION - Sauget Area 1/Site I

Site I encompasses approximately 19 acres, and consists of a disposal area which operated from approximately 1931 until 1957. The site, contiguous with site H beneath Queeny Avenue, is known collectively as the "Sauget-Monsanto Landfill". Site H is bordered by Queeny Avenue to the south, Falling Springs Road to the east, the Alton & Southern Railroad to the north, and by Dead Creek (CS-A) to the west. Prior to its use as a landfill, the site was a series of sand and gravel pits. According to two CERCLA (103(c)) forms submitted by Monsanto to USEPA, the site accepted chemical wastes from the Monsanto's Queeny and Krummrich plants in St. Louis and Sauget, respectively. Aerial photos show landfilling activities decreasing by the late 1950's. Site I is currently graded and covered with crushed stone, and is used by the current owner (Cerro Copper) to park trailers and machinery. Access to Site I is barred by a security fence and is monitored by cameras. Borings from Site I revealed two disposal pits. The southernmost pit was contiguous with Site H under Queeny Avenue. Both pits are estimated to be approximately 23 to 25 feet deep. The thickness of fill material across the site ranges from 3 feet outside of the pits to 13 feet over the pit areas. The waste materials found below the fill consisted of oily sand, clay, wood and cinders mixed with refuse. Each of the pits contained a sludge-like material and staining to the Cahokia alluvium deposits beneath the waste. Based on the estimated depths and thicknesses of the waste material encountered in borings and the distances between boring locations across Sites I and H, an estimated total volume of 200,000 cubic yards of contaminated waste and fill material exists in the south pit, and an estimated total waste volume of 50,000 cubic yards is found in the north pit.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

# **SITE NARRATIVE**

**CREEK SEGMENT A**

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment A			
Sample Locations	Sampling Entity	Date Sampled	Data Source
SD-32 thru SD-36	E & E	11/6/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SW-12, SW-13	E & E	11/6/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SS-1, SS-2, S501, S502	IEPA	1/28/81	Individual Special Analysis forms off Microfiche
X128, X129, S503, S504	IEPA	1/28/81	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
A10 thru A16 A21 & A22	Advent Group	1989	"Site Investigation/Feasibility Study for Creek Segment A" prepared by Advent Group, June 1990
Nature and Extent of Contamination:			
Contaminated sediments in CS-A were removed by the PRP in 1990. IEPA provided oversight of the removal activities for CS-A. It is not known if any confirmation sampling of the excavation base or sidewalls was completed at the time of removal. It is therefore assumed that only low levels of residual contamination may be present in soils adjacent to the CS-A excavation.			
Containment and Integrity (if known):			
CS-A was remediated in 1990 by the PRP under IEPA's oversight. Approximately 27,500 tons of contaminated creek sediment was removed from CS-A. This creek segment has since been filled and covered with crushed stone, and the entire property is fenced with 24-hour surveillance to control access.			
Other Comments: See the attached "Site Description" for more site details.			



## **SITE DESCRIPTION - Sauget Area 1/Creek Segment A**

Creek Segment A (CS-A) is located west of Site 1 on Cerro Copper property, and stretches from the Alton & Southern Railroad at the north end, to Queeny Avenue to the south. CS-A is the northernmost segment of Dead Creek. The 1,700 foot creek segment consisted of two holding ponds that were created when the Queeny Avenue culvert was blocked off. In 1990, Cerro Copper remediated CS-A by excavating 27,500 tons of contaminated sediments, which were disposed of at RCRA- and TSCA-regulated facilities. Materials removed from CS-A were described as fill and fluidized creek bottom sediments. The fill material was tan to black, stained, silt to silty sand, intermixed with concrete, bricks, road aggregate, rags, slag, and vitreous pellets. The fill material varied from 1 to 15 feet thick. The fluidized creek sediments were brown to yellowish brown and black silt with organic matter. The creek sediments ranged from 0.5 to 11 feet thick. CS-A has since been filled and covered with crushed gravel, and is enclosed by fencing.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

Site 1 Data

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**SAUGET Analytical Data**  
**Site I**

**SUBSURFACE SOIL SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (1/87-2/87)**

recycled paper

Sample Number	DC-11-38	DC-12-39	DC-13-40	DC-15-41	DC-15-42	DC-16-43	DC-18-44	DC-17-45	DC-17-46	DC-17-47
Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
VOC							BLANK			
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	740 BJ	2180 B	6769 B	5207 B	5310 B	1047 BJ	6 B	7 B	15 B	13 B
Acetone	2192 BJ	11340 B	16920 B	10541 B	6726 B	13398 B	10 JB	1950 EB	850 EB	914 EB
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	3 J	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	3562 B	10530 B	16920 B	13970 B	9794 B	9702 B	18	30	ND	23
1,1,1-Trichloroethane	ND	ND	1692	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	3810	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	397 J	5265	ND	24130	837 J	2156	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	4158	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	5265	1354 J	2667	2950	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	658 J	7425	677 BJ	24130 B	1652 JB	5082	ND	ND	ND	ND
Chlorobenzene	90420 E	13500	126900	45720	14160	7854	ND	10	ND	ND
Ethylbenzene	15070	3375	ND	9779	3068	5082	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	19180	8100	ND	11049	1652 J	4158	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected.

## SAUGET Analytical Data

## Site I

**SUBSURFACE SOIL SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (2/87)**

Sample Number	DC-19-48	DC-19-49	DC-110-50	DC-111-51	DC-111-52	DC-112-57	DC-112-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
VOC								
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	1117 BJ	418 BJ	636 BJ	852 BJ	46 B	17 B	17 B	6769 B
Acetone	13377 B	5289 B	6480 B	13861 B	708 B	1461 BE	549 BE	16920 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	3 J
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	10731 B	4059 B	8640 B	14696 B	168 B	12 B	27 B	16920 B
1,1,1-Trichloroethane	ND	ND	432 J	ND	ND	ND	ND	1692
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	648 J	ND	ND	ND	ND	3810
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1000 J	107 J	1008 J	3340	23 J	ND	ND	24130
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	1 BJ	4158
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	612 J	ND	ND	ND	ND	5265
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	77910	1353 B	3120	1837	48	ND	ND	77910
Chlorobenzene	3234	935	2640	108550	2040	ND	ND	126900
Ethylbenzene	588 J	283 J	8160	1035 J	96	ND	ND	15070
Styrene	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	867 J	102 J	2760	1620 J	80	ND	ND	19180

µg/kg - Micrograms per kilogram.

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected.

**SAUGET Analytical Data**  
**Site I**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-11-38	DC-12-39	DC-13-40	DC-15-41	DC-15-42	DC-16-43	DC-18-44	DC-17-45	DC-17-46	DC-17-47
Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
<b>BNA's</b>							BLANK			
Phenol	ND	27000 J	ND	ND	ND	15246 J	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	18900 J	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	10960 J	32400	3666 J	558800	22420	72380	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	8905 J	324000	2679 J	139700 J	6490 J	15400 J	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	3014 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	62100 J	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	6713 J	1485000	ND	8255000 E	637200 E	477400	ND	ND	ND	ND
Naphthalene	2877 J	58050	ND	83500 J	1100 J	44660 J	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	43180 J	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	3425 J	7020 J	ND	58420 J	1700 J	169400	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	14014	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.

E - Estimated value. Concentration detected exceeds the calibrated range

J - Estimated value.

ND - Not detected.

**SAUGET Analytical Data**  
**Site I**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-11-38	DC-12-39	DC-13-40	DC-15-41	DC-15-42	DC-16-43	DC-18-44	DC-17-45	DC-17-46	DC-17-47
Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	- 13-23
Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
<b>BNAs</b>							BLANK			
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	16940 J	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	36420 J	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	45900 J	ND	100330 J	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	117450	ND	1270000	177000	32340 J	ND	ND	ND	ND
Pentachlorophenol	191800	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	7948 J	ND	ND	48000 J	ND	101640 J	ND	ND	ND	ND
Anthracene	ND	ND	ND	203200	ND	23100 J	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	203200	ND	36960 J	9728	15600	8500	10668
Fluoranthene	8905 J	ND	ND	203200	ND	18480 J	ND	ND	ND	ND
Pyrene	2877 J	ND	ND	24000 J	ND	49280 J	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	139000 J	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	2466 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	15070	31050 J	ND	ND	ND	130900	ND	ND	2375	ND
Chrysene	3973 J	ND	ND	ND	ND	ND	ND	ND	ND	5588
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1507 J	ND	ND	ND	ND	32430 J	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	2466 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.

E - Estimated value Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site I**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (1/87-2/87)**

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Sample Number	DC-19-48	DC-19-49	DC-110-50	DC-111-51	DC-111-52	DC-112-57	DC-112-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
<b>BNAs</b>								
Phenol	ND	ND	ND	ND	ND	ND	ND	27000 J
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	70140	ND	ND	ND	70140
1,4-Dichlorobenzene	ND	ND	ND	1837000	1596 J	ND	ND	1837000
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	324000
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	3014 J
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	62100 J
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	9000 J	ND	ND	ND	ND	9000 J
1,2,4-Trichlorobenzene	ND	ND	116400	100200	112800	ND	ND	8255000 E
Naphthalene	514500	1845 J	ND	ND	ND	ND	ND	514500
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	43180 J
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	5880 J	ND	ND	23380 J	ND	ND	ND	169400
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	14014

µg/kg - Micrograms per kilogram.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site I**

**SUBSURFACE SOIL SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-19-48	DC-19-49	DC-110-50	DC-111-51	DC-111-52	DC-112-57	DC-112-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
<b>BNAs</b>								
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	5586 J	ND	ND	ND	ND	ND	ND	5586 J
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	16940 J
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	6174 J	3075 J	ND	ND	ND	ND	ND	35420 J
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	100330 J
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	100800	63460	46800	ND	ND	1270000
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	191800
Phenanthrene	12495 J	ND	ND	ND	1320 J	ND	ND	101640 J
Anthracene	ND	ND	ND	ND	ND	ND	ND	203200
Di-n-butyl phthalate	ND	10332	ND	ND	11280	ND	134 J	203200
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	203200
Pyrene	2205 J	ND	ND	ND	ND	ND	ND	49280 J
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	139000 J
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	6720 J	ND	ND	ND	ND	6720 J
bis(2-ethylhexyl)phthalate	ND	5535	ND	48430 J	11000	ND	ND	130800
Chrysene	ND	ND	ND	ND	ND	ND	ND	5588
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	32430 J
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	2466 J
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected.



**SAUGET Analytical Data**  
**Site I**

**SUBSURFACE SOIL SAMPLES**  
**Pesticides/PCBs (µg/kg)**  
**Collected by Ecology & Environment, Inc. (1/87-2/87)**

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Sample Number	DC-11-38	DC-12-39	DC-13-40	DC-15-41	DC-15-42	DC-16-43	DC-18-44	DC-17-45	DC-17-46	DC-17-47
Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
Pesticides/PCBs							BLANK			
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	492800	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	270000 J	183300	342900 J	86140	ND	ND	ND	ND	ND

ecology and environment

µg/kg - Micrograms per kilogram.  
J - Estimated value  
ND - Not detected

## SAUGET Analytical Data

## Site I

## SUBSURFACE SOIL SAMPLES

Pesticides/PCBs ( $\mu\text{g/kg}$ )

Collected by Ecology &amp; Environment, Inc. (1/87-2/87)

Sample Number	DC-I9-48	DC-I9-49	DC-I10-50	DC-I11-51	DC-I11-52	DC-I12-57	DC-I12-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
Pesticides/PCBs								
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	29894	6642	ND	ND	ND	ND	ND	29894
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	4305	ND	ND	ND	ND	ND	4305
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	492800
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	20400 J	ND	ND	ND	ND	342900 J

 $\mu\text{g/kg}$  - Micrograms per kilogram

J - Estimated value

ND - Not detected.

**SAUGET Analytical Data  
Site I**

**SUBSURFACE SOIL SAMPLES  
Total Metals (mg/kg)  
Collected by Ecology & Environment, Inc. (1/87-2/87)**

Sample Number	DC-I1-38	DC-I2-39	DC-I3-40	DC-I5-41	DC-I5-42	DC-I6-43	DC-I8-44	DC-I7-45	DC-I7-46	DC-I7-47
Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
<b>Total Metals</b>							BLANK			
<b>Aluminum</b>	13548	1259	12324	2063	1060	1262	8103	7195	2863	2747
<b>Antimony</b>	ND	ND	ND	ND	14	18	15	ND	ND	ND
<b>Arsenic</b>	11	ND	6	3	ND	14	7	5	3	2
<b>Barium</b>	3603	919	334	3644	ND	400	347	338	83	82
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	11	6	3	2	ND	2	2	2	ND	ND
<b>Chromium</b>	116	16	16	35	ND	731	12	23	6	6
<b>Cobalt</b>	ND	27	14	22	ND	22	ND	ND	ND	ND
<b>Copper</b>	630	84	608	157	ND	149	28	258	ND	ND
<b>Iron</b>	41507	10138	18732 *	11418	3663	23231	14744	14935	7300	7468
<b>Lead</b>	171 *	81 *	373	232 *	6 *	292 *	ND	ND	10 *	10 *
<b>Manganese</b>	256 R	96 R	404 R	116 R	35 R	143 R	396 R	248 R	124 R	125 R
<b>Mercury</b>	2.2	0.6	ND	1.1	ND	1.6	ND	ND	ND	ND
<b>Nickel</b>	111	981	28	2406	31	61	15	36	ND	11
<b>Selenium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Tin</b>	55	ND	56	ND	ND	14	4	11	4	3
<b>Vanadium</b>	563	20	32	20	ND	69	21	18	ND	ND
<b>Zinc</b>	6329	491	331	201	13	662	203	439	29	27
<b>Cyanide</b>	ND	ND	ND	3	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected.

R - Spike sample recovery not within control limits.

\* - Duplicate analysis not within control limits.

**SAUGET Analytical Data  
Site I**

**SUBSURFACE SOIL SAMPLES  
Total Metals (mg/kg)  
Collected by Ecology & Environment, Inc. (1/87-2/87)**

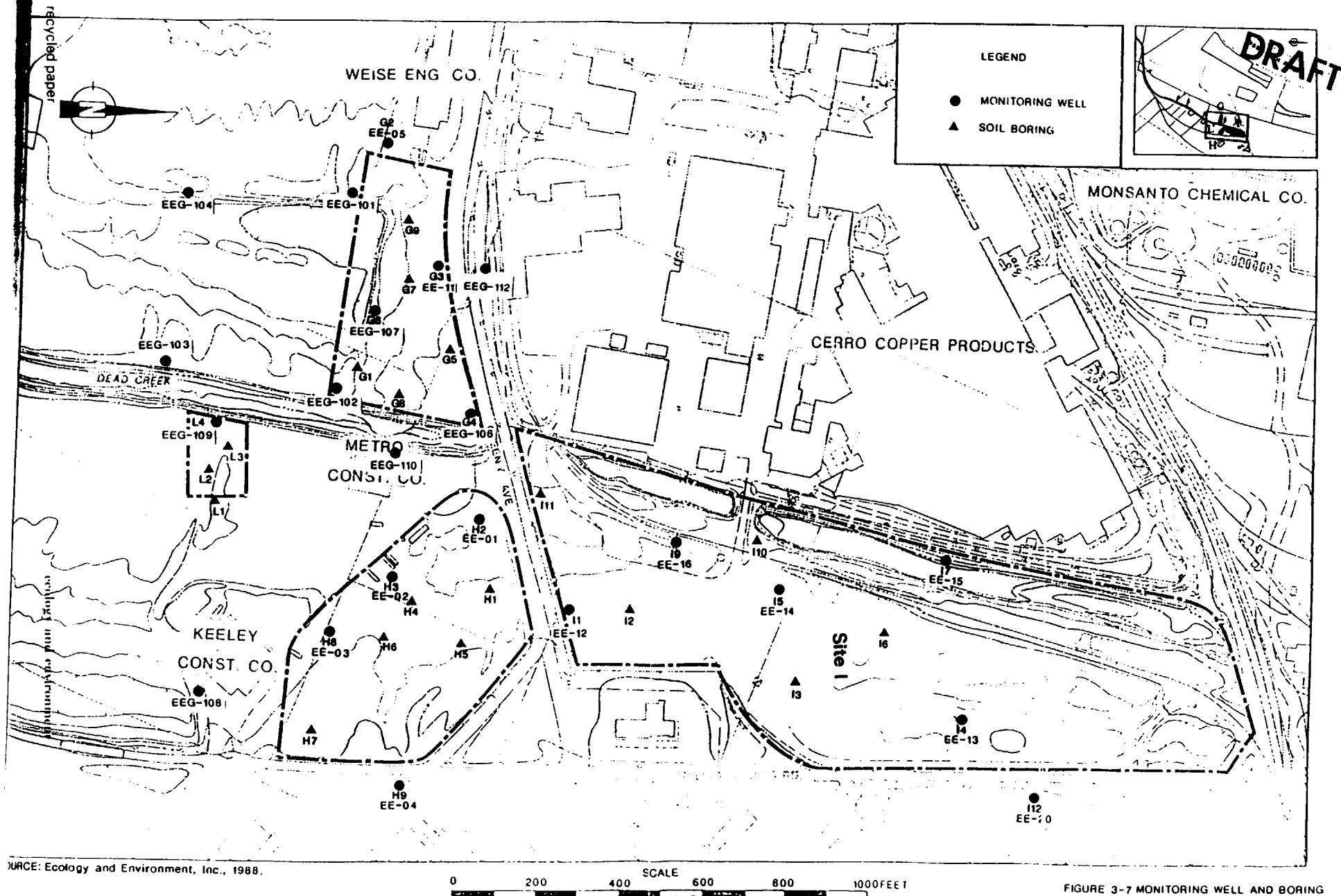
	Sample Number	DC-I9-48	DC-I9-49	DC-I10-50	DC-I11-51	DC-I11-52	DC-I12-57	DC-I12-58	Maximum
	Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
	Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
<b>Total Metals</b>									
Aluminum		8897	1556	1687	6650	1011	1449	1205	13548
Antimony		ND	ND	ND	6663	ND	ND	ND	6663
Arsenic		14	ND	1	ND	ND	2 R	ND	14
Barium		519	ND	ND	8	ND	ND	ND	3603
Beryllium		ND	ND	ND	1530	ND	ND	ND	1530
Boron		ND	ND	ND	ND	ND	ND	ND	ND
Cadmium		13	ND	ND	ND	ND	ND	ND	13
Chromium		96	4	6	7	ND	4	4	731
Cobalt		34	ND	13	140	ND	ND	ND	140
Copper		575	ND	ND	23	ND	ND	ND	630
Iron		27647	4667	4687	543	2867	4899	4207	41607
Lead		5647 *	704	9 *	23333	29 *	7 *	3 *	23333
Manganese		240 R	35 R	61 R	5483 *	43 R	98 *	63 *	5483 *
Mercury		3.2	ND	ND	240 R	ND	ND	ND	240 R
Nickel		206	ND	145	0.9	11	ND	ND	2406
Selenium		ND	ND	ND	1320	ND	MD	ND	1320
Silver		ND	ND	ND	ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND	ND	ND	ND
Tin		24	5	2	ND	ND	ND	ND	55
Vanadium		40	ND	ND	ND	ND	ND	ND	553
Zinc		1156	125	89	43	18	21 *	20 *	6329
Cyanide		2	ND	ND	3183	ND	ND	ND	3183

mg/kg - Milligrams per kilogram.

ND - Not detected.

R - Spike sample recovery not within control limits

\* - Duplicate analysis not within control limits



SOURCE: Ecology and Environment, Inc., 1988.

**CS-A Data**

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SEDIMENT SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/6/86	Detected
<b>VOC</b>						<b>BLANK</b>	
Chloromethane	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	14000 B	6300 B	6800 B	8800 B	7200 B	14000 B	14000 B
Acetone	11000 B	12000 B	5300 B	23000 B	6800 B	4700 B	23000 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	12000 B	11000 B	9200 B	ND	12000 B	6400 B	12000 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	930 JB	ND	ND	ND	930 JB
2-Hexanone	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	480 J	ND	480 J
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND

(µg/kg) - Micrograms per kilogram  
 B - Compound detected in blank sample  
 J - Estimated value  
 ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SEDIMENT SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	Detected
<b>BNAs</b>						BLANK	
Phenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	160 J	ND	ND	ND	550 J	ND	550 J
1,4-Dichlorobenzene	1000	ND	410 J	130 J	2900	ND	2900
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	480	270 J	ND	ND	ND	ND	480
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND
Naphthalene	580	ND	ND	90 J	1500 J	ND	1500 J
4-Chloroaniline	ND	ND	ND	130 J	ND	ND	130 J
Hexachlorobutadiene	ND	ND	ND	1000 J	ND	ND	1000 J
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	450 J	ND	ND	ND	450 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	170 J	ND	170 J

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected



**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SEDIMENT SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	Detected
<b>BNAs</b>						BLANK	
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	220 J	ND	ND	ND	ND	ND	220 J
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	110 J	ND	ND	1100 J	ND	ND	1100 J
Pentachlorophenol	ND	ND	ND	800 J	ND	ND	800 J
Phenanthrene	190 J	ND	ND	ND	ND	ND	190
Anthracene	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	800 J	ND	ND	800 J
Pyrene	110 J	ND	ND	1000 J	1400 J	ND	1400 J
Butyl Benzyl phthalate	520	ND	2400 J	ND	900 J	ND	2400 J
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	280 J	2200 J	2900	130 J	ND	ND	2900
Chrysene	110 J	ND	710 J	1000 J	1700 J	ND	1700 J
Di-n-octyl phthalate	300 J	420 J	2900	8100	11000	ND	11000
Benzo(b)fluoranthene	ND	ND	330 J	760 J	1000 J	ND	1000 J
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	430 J	540 J	ND	540 J
Indeno(1,2,3-cd)pyrene	ND	ND	ND	570 J	ND	ND	570 J
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	960 J	ND	ND	960 J

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SEDIMENT SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	Detected
<b>Total Metals</b>							
<b>Aluminum</b>	8570	6720	8310	7210	9180	10500	10500
<b>Antimony</b>	ND	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>	18 R	30 R	76 R	21 R	12 R	5.2 R	76 R
<b>Barium</b>	430	287	287	732	328	277	732
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	18	25	22	31	17	2.1	31
<b>Chromium</b>	34	102	121	206	75	13	206
<b>Cobalt</b>	8.9	3.2	ND	27	11	5.4	27
<b>Copper</b>	2620 *	4630 *	3130 *	11400 *	10300 *	31 *	11400 *
<b>Iron</b>	25000	37400	36100	36800	21900	15700	37400
<b>Lead</b>	225	1900	2030	1600	910	30	2030
<b>Manganese</b>	123	69	66	296	153	384	384
<b>Mercury</b>	2.81	4.06	5.82	3	1.18	ND	5.82
<b>Nickel</b>	765 R*	310 R*	255 R*	559 R*	307 R*	19 R*	765 R*
<b>Selenium</b>	ND	3.3	ND	3	ND	ND	3.3
<b>Silver</b>	6	26	23	33	13	ND	33
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND
<b>Tin</b>	14	76	412	57	ND	ND	412
<b>Vanadium</b>	24	20	23	25	22	24	25
<b>Zinc</b>	1590	1510	1230	3420	2740	172	3420
<b>Cyanide</b>	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

\* - Duplicate analysis not within control limits.

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SEDIMENT SAMPLES**  
**Pesticides/PCBs ( $\mu\text{g/kg}$ )**  
**Collected by Ecology & Environment, Inc. (11/86)**

recycled paper

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	Detected
<b>Pesticides/PCBs</b>							
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	21000 C	7900	11000	ND	ND	ND	21000 C
Aroclor-1254	13000 JC	6500	10600	71000 C	38000	ND	71000 C
Aroclor-1260	ND	2000 J	2200 J	24000 C	13000 J	ND	24000 C

 $\mu\text{g/kg}$  - Micrograms per kilogram

C - Result confirmed by GC/MS

J - Estimated value

ND - Not detected

recycled paper

## SAUGET Analytical Data

Dead Creek - Sector A

## SURFACE WATER SAMPLES

Volatile Organic Compounds ( $\mu\text{g/L}$ )

Collected by Ecology &amp; Environment, Inc. (11/86)

recycled paper

recycled and environment

Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
Date Collected	11/6/86	11/06/86	11/06/86	Concentration
VOC	BLANK			Detected
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	6 B	4 BJ	4	6 B
Acetone	17 B	20 B	6	20 B
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	3	3
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	25	8	7	25
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	33	41	41
Carbon Tetrachloride	ND	ND	31	31
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	6	16	16
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	1 J	ND	1 J
cis-1,3-Dichloropropene	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	6 J	ND	6 J
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	2 J	ND	2 J
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	2 J	ND	2 J
Total Xylenes	ND	ND	ND	ND

 $\mu\text{g/L}$  - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
Dead Creek - Sector A

**SURFACE WATER SAMPLES**  
Base Neutrals/Acids (µg/L)  
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/06/86	11/06/86	11/06/86	Concentration
<b>BNAs</b>		<b>BLANK</b>			<b>Detected</b>
Phenol		ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND
Isophorone		ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND
Naphthalene		ND	ND	ND	ND
4-Chloroaniline		ND	3 J	ND	3 J
Hexachlorobutadiene		ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND
2-Methylnaphthalene		ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

Dead Creek - Sector A

## SURFACE WATER SAMPLES

Base Neutrals/Acids ( $\mu\text{g/L}$ )

Collected by Ecology &amp; Environment, Inc. (11/86)

recycled paper

Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
Date Collected	11/06/86	11/06/86	11/06/86	Concentration
<b>BNAs</b>	<b>BLANK</b>			<b>Detected</b>
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	4 J	ND	4 J
Anthracene	ND	ND	ND	ND
Di-n-butyl phthalate	17 B	5 BJ	27 B	27 B
Fluoranthene	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	12 J	ND	12 J
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	7 J	5 J	7 J
Chrysene	ND	ND	ND	ND
Di-n-octyl phthalate	ND	36 J	1 J	36 J
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

Ecology and Environment

 $\mu\text{g/L}$  - Micrograms per liter.

B - Compound detected in blank

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Sector A**

**SURFACE WATER SAMPLES**  
**Pesticides/PCBs ( $\mu\text{g/L}$ )**  
**Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/06/86	11/06/86	11/06/86	Concentration
Pesticides/PCBs		BLANK			Detected
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

$\mu\text{g/L}$  - Micrograms per liter.

ND - Not detected

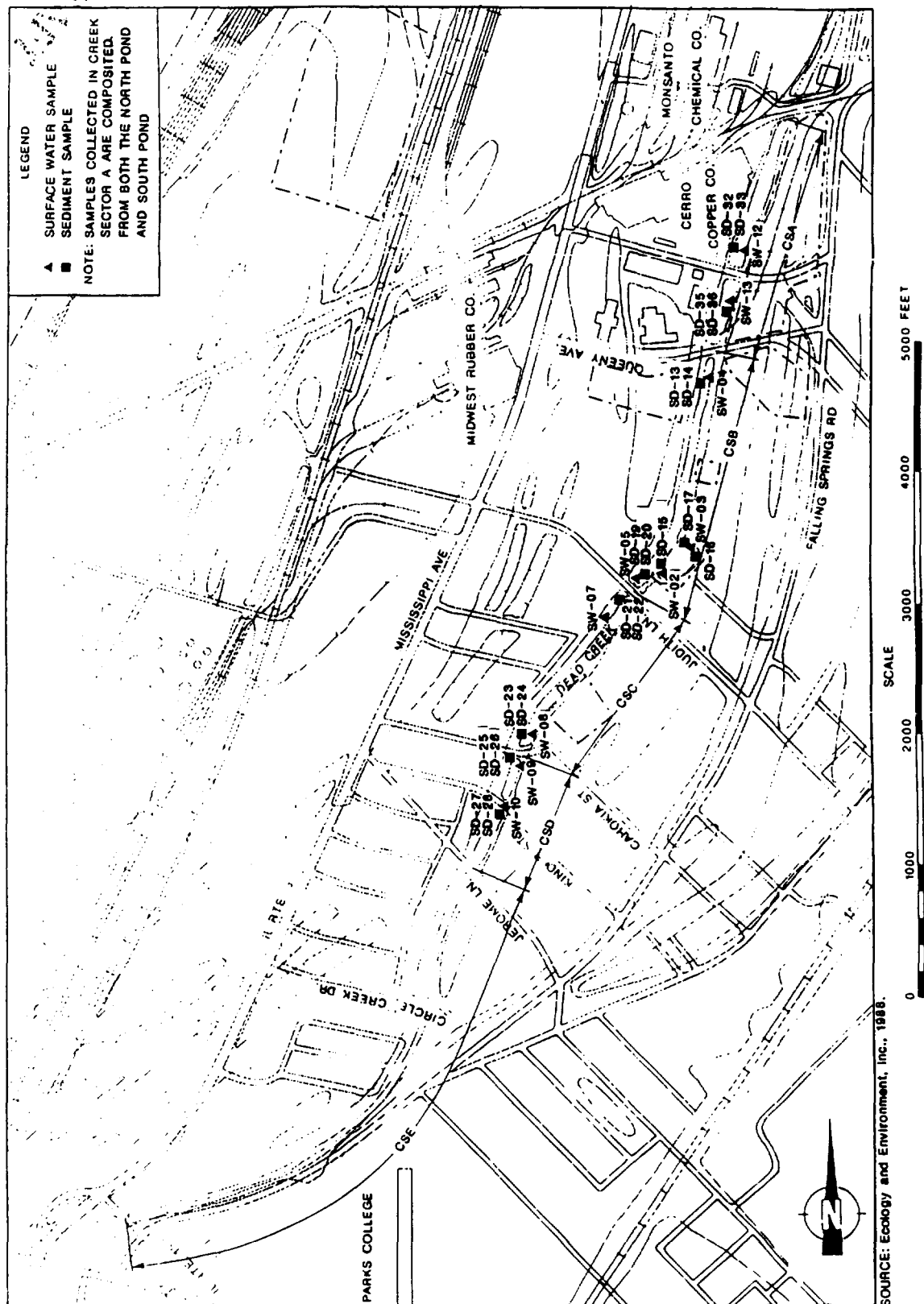
**SAUGET Analytical Data****Dead Creek - Sector A****SURFACE WATER SAMPLES****Total Metals (µg/L)****Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/06/86	11/06/86	11/06/86	Concentration
<b>Total Metals</b>		<b>BLANK</b>			<b>Detected</b>
<b>Aluminum</b>		<b>323</b>	<b>354</b>	<b>294</b>	<b>354</b>
<b>Antimony</b>		<b>ND</b>	<b>115</b>	<b>ND</b>	<b>115</b>
<b>Arsenic</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Barium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Beryllium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Boron</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Cadmium</b>		<b>ND</b>	<b>75</b>	<b>23</b>	<b>75</b>
<b>Chromium</b>		<b>ND</b>	<b>81</b>	<b>65</b>	<b>81</b>
<b>Cobalt</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Copper</b>		<b>ND</b>	<b>7030</b>	<b>2410</b>	<b>7030</b>
<b>Iron</b>		<b>ND</b>	<b>2040</b>	<b>724</b>	<b>2040</b>
<b>Lead</b>		<b>ND</b>	<b>3060</b>	<b>76</b>	<b>3060</b>
<b>Manganese</b>		<b>ND</b>	<b>68</b>	<b>252</b>	<b>252</b>
<b>Mercury</b>		<b>ND</b>	<b>0.59</b>	<b>0.2</b>	<b>0.59</b>
<b>Nickel</b>		<b>ND</b>	<b>2600</b>	<b>667</b>	<b>2600</b>
<b>Selenium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Silver</b>		<b>ND</b>	<b>16</b>	<b>ND</b>	<b>16</b>
<b>Thallium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Tin</b>		<b>ND</b>	<b>499</b>	<b>ND</b>	<b>499</b>
<b>Vanadium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Zinc</b>		<b>ND</b>	<b>1450</b>	<b>480</b>	<b>1450</b>
<b>Cyanide</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>

µg/L - Micrograms per liter

ND - Not detected





**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SOIL SAMPLES**  
**PCBs ( $\mu\text{g}/\text{kg}$ )**  
**Collected by IEPA**

	<b>Sample Number</b>	S501	S502	<b>Maximum</b>
	<b>Date Collected</b>	01/28/81	01/28/81	<b>Concentration</b>
<b>PCBs</b>				<b>Detected</b>
<b>PCBs</b>		<b>2</b>	<b>&lt;1</b>	<b>2</b>

$\mu\text{g}/\text{kg}$  - Micrograms per kilogram.  
 PCBs - Polychlorinated biphenyls

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SOIL SAMPLES**  
**Furnace AA/ICAP Metals (mg/kg unless otherwise noted)**  
**Collected by IEPA**

		Furnace AA Metals			ICAP Metals		Maximum
	Sample Number	SS-1	SS-2		SS-1	SS-2	Concentration
	Date Collected	01/28/81	01/28/81		01/28/81	01/28/81	Detected
<b>Metals</b>							
Cadmium		22	51		22.11	50.6	51
Chromium		490	140		491.4	140	491.4
Copper		24300	5500		24324.01	5500	24324.01
Iron		51900	29500		51911.7	29535.8	51911.7
Lead		2600	840		2604.42	843.88	2604.42
Manganese		250	140		245.7	141.35	250
Nickel		1500	570		1474.2	569.6	1500
Silver		98	29		98.28	29.54	98.28
Zinc		5800	2300		NA	NA	5800
Mercury (ug/g)		6.9	101		NA	NA	101
Arsenic		96	30		95.8	29.5	96
Selenium		0.98	1.1		0.98	1.05	1.1
Calcium		13100	5300		13095.8	NA	13100
Magnesium		2100	2300		2088.5	NA	2300
Sodium		<245	<210		NA	NA	NA
Potassium		520	670		NA	NA	670
Barium		2500	1200		NA	NA	2500

mg/kg - Milligrams per kilogram.

NA - Parameter not analyzed

SS-1

Priority

Collected: 2:53pm  
Collected: 1-28-81

SPECIAL ANALYSIS FORM

Lab # B 30398  
Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

NAME: St. Clair FILE HEADING: Cahokia / Dead Creek FILE NUMBER: GENERAL

SOURCE OF SAMPLE: (Exact Location) SS-1 collected at the south end of the southern pond located on the east side of Alums Copper

PHYSICAL OBSERVATIONS, REMARKS: Dark oily plastic soil exhibiting an organic type odor

TOTAL METALS  
OTHER METALS PER  
GENERAL ANALYSIS  
OTHERWISE REQUESTED BASED  
ON wet weight as received

STS REQUESTED: P.C.B.'s + Chlorinated Hydrocarbons  
Campaign = A.A. I CAP SCAN for metals

COLLECTED BY: PERRY MANN + Tom POWELL TRANSPORTED BY: PERRY MANN  
LABORATORY

RECEIVED BY:	DATE COMPLETED:	DATE FORWARDED:
2d 22H 22. SM	As 95.8	96. SM
5r 49H 490. SM	Se 0.98	
2u 24324.01 24300. SM	Ca 13095.8	13100. SM
2e 519H.7 51900. SM	Mg 2088.5	2100. SM
2b 2604.42 2600 SM	Na < 245.	
2n 245.70 250. SM	K 516.	520. SM
2i 1474.2 1500 SM	Ba 2450.	2500. SM
2g 98.28 98. SM		
2j 5770. 5800 SM		
Hg 6.9 ug/g		

SS-2

Priority

B 30399

Time Collected: 3:15 pm  
Date Collected: 1-28-81

SPECIAL ANALYSIS FORM

Lab #

Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

St. Clair

FILE HEADING:

Cahokia / Dead Creek

FILE NUMBER:

GENERAL

SOURCE OF SAMPLE: (Exact Location)

SS-2 was collected from the north end of the north pond ~~located~~ on Cerro Copper's property

PHYSICAL OBSERVATIONS, REMARKS:

odor

gray to dark soil; oily; no distinguishable

TOTALS METALS.

DATA IN UNITS OF MICROGRAMS PER

GRAM DRY WEIGHT OF SAMPLE

OTHERWISE INDICATED, BASED

ON wet weight as received

TESTS REQUESTED:

P.C.B.'s + Chlorinated Hydrocarbons

Champaign = AA I esp scan for metals

COLLECTED BY: PERRY MANN + Tom POWELL TRANSPORTED BY: PERRY MANN

LABORATORY

RECEIVED BY:

DATE  
COMPLETED:DATE  
FORWARDED:Cd ~~50.6~~ 51. smAs ~~29.5~~ 29.5 30. sm

Cr 140

Se 1.05 1.1 sm

Cu 5,500

Ca 5250 5300. sm

Fe ~~29535.8~~ 29,500. sm

Mg 2300

Pb ~~843.88~~ 840. sm

Na &lt; 210.

Mn 141.35 140. sm

K 675. 670. sm

Ni ~~569.6~~ 570. sm

Ba 1180. 1200. sm

Ag 29.54 29. sm

Zn 2330 2300. sm

Hg ~~101.600~~ 101.600 <sup>sm</sup> ppb 101. ug/g

S501

Priority

Time Collected: 3:00 pm

Lab # D012725

Date Collected: 1-28-81

SPECIAL ANALYSIS FORM

Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

FILE HEADING:

FILE NUMBER:

St. Clair

Columbia / Dead Creek

General

SOURCE OF SAMPLE: (Exact Location)

~~S501~~ S501 was collected from  
the south pond at the south end located on Cervo's property  
~~odor detected~~

PHYSICAL OBSERVATIONS, REMARKS:

greenish gray color with slight  
odor detected.

TESTS REQUESTED:

P.C.B.'s + Chlorinated Hydrocarbons

COLLECTED BY: PERRY MANN + TOM POWELL

TRANSPORTED BY:

PERRY MANN

LABORATORY

RECEIVED BY:

CMC

DATE

COMPLETED:

3-19-81

DATE

FORWARDED:

3-19-81

J. Hickey

2 P.P.B.

S-502

Priority

Date Collected: 3:15 PM

Lab #

0019726

Date Collected: 1-28-81

SPECIAL ANALYSIS FORM

Date Received

JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:

FILE HEADING:

FILE NUMBER:

St. Clair

Cahokia / Dead Creek

GENERAL

SOURCE OF SAMPLE: (Exact Location) S-502 was collected from

the north pond at the northern end of  
Cerro Copper's property, adjacent to Monsanto's  
property

PHYSICAL OBSERVATIONS, REMARKS:

Bright Brownish-orange

color, oil film on surface, strong  
organic odor.

TESTS REQUESTED:

P.C.B.'s + Chlorinated Hydrocarbons

COLLECTED BY: PERRY MANN + TOM POWELL TRANSPORTED BY: PERRY MANN

LABORATORY

RECEIVED BY: CMC

DATE

COMPLETED:

3-19-81

DATE

FORWARDED:

3-19-81

J. Hanning

PCBs &lt; 0.1 ug/l

&lt; 1 PPH

SAUGET Analytical Data  
Dead Creek - Segment A

SEDIMENT SAMPLES (mg/kg)

Collected by IEPA

Parameter	Sample Number Date Collected	x128 11/26/80	x129 11/26/80	x128 01/28/81	x129 01/28/81	Maximum Concentration Detected
Ammonia		NA	NA	30	96	96
Barium		NA	NA	1200	2500	2500
Cadmium		NA	NA	51	22	51
Calcium		NA	NA	5300	13100	13100
Chromium		NA	NA	140	490	490
Copper		NA	NA	5600	24000	24000
Iron		NA	NA	29500	51900	51900
Lead		NA	NA	840	2600	2600
Magnesium		NA	NA	2300	2100	2300
Manganese		NA	NA	140	250	250
Mercury		NA	NA	101	6.9	101
Nickel		NA	NA	570	1500	1500
Potassium		NA	NA	670	520	670
Silver		NA	NA	29	98	98
Zinc		NA	NA	2300	5800	5800
Aliphatic Hydrocarbons		13	26	NA	NA	26
Dichlorobenzene		ND	1.7	NA	NA	1.7
PCBs		2.2	13	NA	NA	13

mg/kg - Milligrams per kilogram.

NA - parameter not analyzed

ND - below detection limits



**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SURFACE WATER SAMPLES (mg/L unless otherwise noted)**

Collected by IEPA

Sample Number	S503	S504	S501	S502	Maximum
Date Collected	11/26/80	11/26/80	01/26/81	01/26/81	Concentration
Parameter					Detected
Alkalinity	127	110	NA	NA	127
Ammonia	0.2	1	NA	NA	1
Arsenic	0.058	0.025	NA	NA	0.058
Barium	1.2	0.7	NA	NA	1.2
BOD-5	630	168	NA	NA	630
Boron	0.2	0.3	NA	NA	0.3
Cadmium	0.36	0.19	NA	NA	0.36
COD	NA	1190	NA	NA	1190
Chloride	33	36	NA	NA	36
Chromium (Total)	0.61	0.21	NA	NA	0.61
Copper	4.5	3.6	NA	NA	4.5
Cyanide	0.01	0.01	NA	NA	0.01
Fluoride	0.4	0.7	NA	NA	0.7
Hardness	227	260	NA	NA	260
Iron	58	28	NA	NA	58
Lead	6.6	2.8	NA	NA	6.6
Magnesium	35.8	28.7	NA	NA	35.8
Manganese	1	0.67	NA	NA	1
Mercury	0.0016	0.0016	NA	NA	0.0016
Nickel	4.2	3.3	NA	NA	4.2
Nitrate-Nitrite	1.4	1.7	NA	NA	1.7
pH	6.9	7	NA	NA	7
Phenol	0.02	0.035	NA	NA	0.035
Phosphorus	1.9	3.4	NA	NA	3.4
Potassium	4.3	6.2	NA	NA	6.2
R.O.E.	361	407	NA	NA	407
Selenium	0.002	NA	NA	NA	0.002
Silver	0.24	0.14	NA	NA	0.24
Sodium	19.7	22.4	NA	NA	22.4
Sulfate	90	130	NA	NA	130
Zinc	30	17	NA	NA	30
PCB (ppb)	22	28	NA	NA	28
Aliphatic hydrocarbons (ppb)	23000	NA	NA	NA	23000

NA - parameter not analyzed

ND - below detection limits

mg/L - Milligrams per liter

ppb - Parts per billion

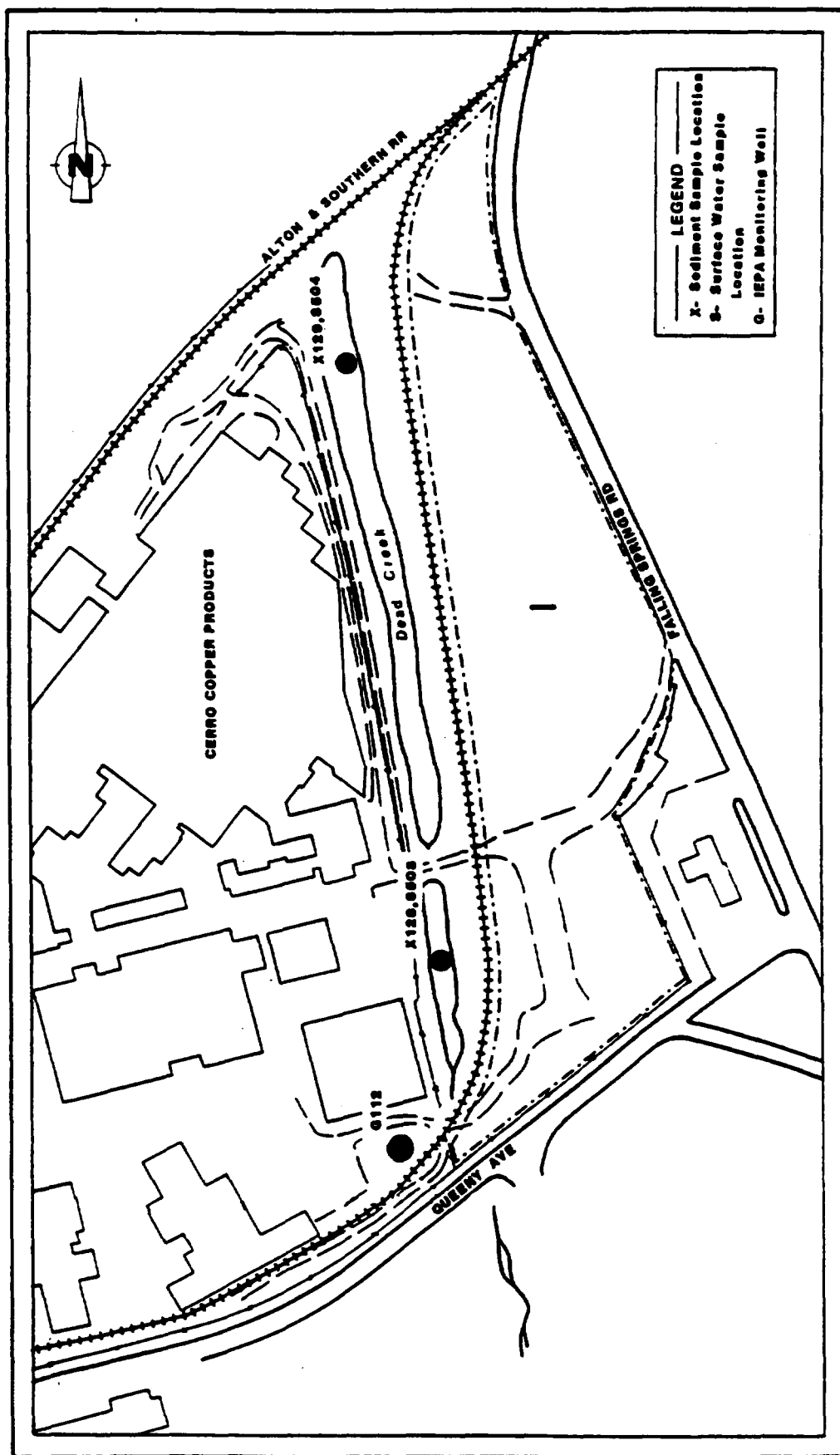


FIGURE IA-1  
DEAD CREEK SITE AREA I AND CREEK SECTOR A WITH SAMPLING LOCATIONS

SAUGET Analytical Data  
Dead Creek - Segment A

Page 1 of 2

SOIL/SEDIMENT SAMPLES  
Volatile Organic Compounds (µg/kg)  
Collected by Advent Group

Sample Number	A10	A11B	A11C	A12B	A12C	A13B	A14C	A15B	A15C	A16B
Sample Depth (ft)	15-17	4-8	2-6.5	3-7	4-9	4.5-6	8.5-10	6-9	4.5-9	9-12
Date Collected	07/13/90	07/18/90	07/18/90	07/13/90	07/12/90	7/11/90	7/11/90	7/7/90	7/10/90	7/18/90
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	680 J	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	1600 B	1600 B	1700 B	25000 B	6400 B	4400 B	2500 B	2300 B	3800 B	20000 B
Acetone	ND	1000 JB	690 JB	22600 JB	4800 JB	2400 JB	1300 JB	2300 B	6300 B	16000 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	1600	ND
1,2-Dichloroethene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	15000
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	740 J	ND	ND	ND	ND	ND	ND	ND	870 J	100000
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	440 J	2600 J
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	380 J	680 J	ND	ND	4600 J
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	330 J	ND
Toluene	ND	ND	170 J	ND	690 J	ND	ND	ND	ND	7200 J
Chlorobenzene	650	240 J	530 J	5200 J	4600	2100	590 J	420 J	1100 J	31000
Ethylbenzene	1100	2900	ND	3600 J	ND	1400 J	ND	ND	1400 J	80000
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	ND	360	3800	ND	ND	460 J	ND	ND	5200	500000
Acrolein	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	170 J	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	6900	ND	ND	ND	ND
Acetonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopentane	480 J	630 J	ND	ND	1700 J	1800 J	1300 J	1000 J	ND	ND
Propionitrile (Ethyl Cyanide)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Chloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methacrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isobutyl alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloro-1,3-Butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram  
B - Compound detected in blank sample  
J - Estimated value  
ND - Not detected

SAUGET Analytical Data  
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES  
Volatile Organic Compounds (µg/kg)  
Collected by Advent Group

Sample Number	A18C	A21C	A22B	A23A	Maximum
Sample Depth (ft)	2-5	4-8	0-7	19-20	Concentration
Date Collected	07/18/90	07/14/90	07/17/90	07/14/90	Detected
VOC					
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	880
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	30000 B	5800 B	3100 B	210	30000 B
Acetone	23000 JB	4100 JB	2800 JB	240	23000 JB
Carbon Disulfide	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
1,1-Dichloroethane	6400 J	ND	260 J	ND	6400 J
1,2-Dichloroethane (total)	ND	ND	1400	ND	15000
Chloroform	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone	ND	1600 J	ND	ND	1600 J
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethane	14000 J	ND	690 J	218	100000
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	8800 J	ND	ND	ND	8800 J
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Tetrachloroethene	11000 J	ND	ND	ND	11000 J
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	330 J
Toluene	ND	ND	ND	570	7200 J
Chlorobenzene	24000	6100	620 J	1800	31000
Ethylbenzene	50000	ND	550 J	330	80000
Styrene	ND	ND	ND	ND	ND
Xylene (total)	240000	ND	ND	ND	500000
Acrolein	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	170 J
Dichlorodifluoromethane	ND	ND	ND	ND	6900
Acetonitrile	ND	ND	ND	ND	ND
Iodomethane	ND	3000 J	1000 J	ND	3000 J
Propionitrile (Ethyl Cyanide)	ND	ND	ND	ND	ND
3-Chloropropene	ND	ND	ND	ND	ND
Methacrylonitrile	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND
Isobutyl alcohol	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND
2-Chloro-1,3-Butadiene	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

[illegible]

µg/kg • Micrograms per kilogram  
B • Compound detected in blank  
BDL • Below detection limits  
J • Estimated value

SAUGET Analytical Data  
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Advent Group

Sample Number	A10	A11B	A11C	A12B	A12C	A13B	A14C	A15B	A15C	A16B
Sample Depth (ft)	15-17	4-8	2-6.5	3-7	4-8	4.5-6	8.5-10	6-8	4.5-8	9-12
Date Collected	07/13/90	07/18/90	07/18/90	07/13/90	07/12/90	7/11/90	7/11/90	7/7/90	7/10/90	7/18/90
BNA's										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	800 J	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	110 J	ND	ND	ND	ND	ND	ND	49 J	2500 J	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	1700 J	ND	ND	ND	ND	88 J	4300 J	ND
Pentachlorophenol	800 J	ND	ND	ND	ND	ND	ND	88 J	ND	ND
Phenanthrene	66 J	ND	670 J	3600 J	ND	1800 J	ND	ND	1800 J	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	66 JB	1100 JB	1100 JB	ND	4400 J	ND	ND	86 J	ND	ND
Fluoranthene	ND	ND	640 J	3900 J	8700 J	1400 J	ND	ND	ND	ND
Pyrene	ND	ND	640 J	4900 J	ND	1800 J	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	1100 J	ND	168 J	11000 J	7000 JB
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	78 J	ND	ND	3400 J	8600 J	6200 B	190 JB	240 JB	11000 JB	26000 JB
Di-n-octyl phthalate	ND	ND	ND	ND	3000 J	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Naphthylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Naphthylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trinitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diallate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenacetin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diphenylamine	110 J	ND	ND	ND	ND	ND	ND	42 J	2500 J	ND
8-Nitro-o-toluidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Aminobiphenyl	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pronamide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-sec-Butyl-4,6-dimtyophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroquinoline-1-oxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methapyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aramite	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzilate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dimethylaminoazobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dimethylbenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Acetylaminofluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7-12-Dimethylbenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorophene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylcholanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

BDL - Below detection limits

J - Estimated value

ND - Not detected

SAUGET Analytical Data  
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES  
Base Neutrals/Acids (µg/kg)  
Collected by Advent Group

Sample Number	A16C	A21C	A22B	A23A	Maximum
Sample Depth (ft)	2-5	4-8	0-7	19-20	Concentration
Date Collected	07/18/90	07/14/90	07/17/90	07/14/90	Detected
ANAs					
Phenol	21000 JB	ND	ND	380	610000 B
Bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	23000 J	ND	ND	ND	32000 J
1,4-Dichlorobenzene	260000 B	13000 J	34000 J	2900	390000 B
Benzyl Alcohol	ND	ND	ND	820	820
1,2-Dichlorobenzene	360000 B	ND	ND	810	650000 B
2-Methylphenol	ND	ND	ND	600	600
Bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	120	120
N-Nitroso-n-Propylamine	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	550	1600 J
Benzoic Acid	ND	ND	ND	2900	2900
Bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	12000 JB	6000 J	ND	950	160000 B
Naphthalene	5000 J	ND	ND	1500	5000 J
4-Chloroaniline	14000 J	ND	ND	730	17000
Hexachlorobutadiene	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	600 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND
Methyl methacrylate	ND	ND	ND	ND	ND
Pyridine	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	ND	ND	ND	ND	ND
Ethyl methacrylate	ND	ND	ND	ND	ND
2-Picoline	ND	ND	ND	ND	ND
N-Nitrosomethylethylamine	ND	ND	ND	ND	ND
Methyl methanesulfonate	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	ND	ND	ND	ND	ND
Ethyl methanesulfonate	ND	ND	ND	ND	ND
Aniline	ND	ND	ND	3600	3600
Pentachloroethane	ND	ND	ND	ND	ND
3-Methylphenol	ND	ND	ND	120	120
N-Nitrosopyrrolidine	ND	ND	ND	ND	ND
Acetophenone	4300 JB	ND	ND	2900	24000
N-Nitrosomorpholine	ND	ND	ND	ND	ND
o-Toluidine	ND	ND	ND	ND	ND
N-Nitrosopiperidine	ND	ND	ND	ND	ND
a,a-Dimethylphenethylamine	ND	ND	ND	ND	ND
2,6-Dichlorophenol	ND	ND	ND	ND	ND
Hexachloropropene	ND	ND	ND	ND	ND
2-Phenylethylamine	ND	ND	ND	ND	ND
2-Nitroso-di-n-butylamine	ND	ND	ND	ND	ND
Metrole	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	ND	ND	ND	ND	28000
Benzoate	ND	ND	ND	ND	ND
2,4-Naphthoquinone	ND	ND	ND	ND	ND
4,3-Dinitrobenzene	ND	ND	ND	ND	ND
Pentachlorobenzene	ND	ND	ND	ND	37000 J
2,3,6-Trichlorophenol	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

BDL - Below detection limits

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

## Dead Creek - Segment A

## SOIL/SEDIMENT SAMPLES

Base Neutrals/Acids ( $\mu\text{g/kg}$ )

Collected by Advent Group

Sample Number	A16C	A21C	A22B	A23A	Maximum
Sample Depth (ft)	2-5	4-8	0-7	19-20	Concentration
Date Collected	07/18/90	07/14/90	07/17/90	07/14/90	Detected
<b>BNAs</b>					
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	800 J
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	4200 J	ND	ND	ND	4200 J
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	4300 J
Pentachlorophenol	ND	ND	ND	ND	800 J
Phenanthrene	5400 J	4900 J	14000 J	790 J	14000 J
Anthracene	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	2900 J	4400 J
Fluoranthene	3600 J	8100 J	ND	ND	8100 J
Pyrene	4200 J	8300 J	10000 J	ND	10000 J
Butyl Benzyl phthalate	100000 B	ND	ND	620 J	100000 B
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
Chrysene	6700 J	4800 J	ND	1000 J	5700 J
bis(2-ethylhexyl)phthalate	ND	6700 J	ND	20000	20000
Di-n-octyl phthalate	18000 JB	7300 J	ND	ND	18000 JB
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
1,4-Dioxane	ND	ND	ND	ND	ND
1-Naphthylamine	ND	ND	ND	ND	ND
2-Naphthylamine	ND	ND	ND	ND	ND
2,3,4'-Tetrachlorophenol	ND	ND	ND	ND	ND
1,3,5-Trinitrobenzene	ND	ND	ND	ND	ND
Diallate	ND	ND	ND	ND	ND
Phenacetin	ND	ND	ND	ND	ND
Diphenylamine	4200 J	ND	ND	ND	4200 J
5-Nitro-o-toluidine	ND	ND	ND	ND	ND
4-Aminobiphenyl	ND	ND	ND	ND	ND
Pronamide	ND	ND	ND	ND	ND
2-sec-Butyl-4,6-dinitrophenol	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ND	ND	ND	ND	ND
4-Nitroquinoline-1-oxide	ND	ND	ND	ND	ND
Methapyrene	ND	ND	ND	ND	ND
Aramite	ND	ND	ND	ND	ND
Chlorobenzilate	ND	ND	ND	ND	ND
p-Dimethylaminobenzene	ND	ND	ND	ND	ND
3,3'-Dimethylbenzidine	ND	ND	ND	ND	ND
2-Acetylaminoofluorene	ND	ND	ND	ND	ND
7-12-Dimethylbenzidine	ND	ND	ND	ND	ND
Hexachlorophene	ND	ND	ND	ND	ND
3-Methylcholanthrene	ND	ND	ND	ND	ND

 $\mu\text{g/kg}$  - Micrograms per kilogram

B - Compound detected in blank sample

BDL - Below detection limits

J - Estimated value

ND - Not detected



**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SOIL/SEDIMENT SAMPLES**

**PCBs (µg/kg)**

**Collected by Advent Group**

Sample Number	A10	A10	A10	A10	A10	A10	A11A	A11A	A11B	A11B
Sample Depth (ft)	6-7	9-10	15-17	20-22	24-29	37-38	8-13	13-18	4-8	8 1-10.6
Date Collected	07/13/90	07/13/90	07/13/90	07/13/90	07/13/90	07/13/90	07/19/90	07/19/90	07/18/90	07/18/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	10000	3200	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	480	1400	4300	880	0	ND	530	210
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample Number	A11B	A11C	A11C	A11C	A11D	A11D	A12A	A12A	A12B	A12B
Sample Depth (ft)	12-17	2-6.5	6.5-10.5	12.5-16.5	8-10	18.5-23.5	8-11	11-20.5	3-7	9-12
Date Collected	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/19/90	07/19/90	07/13/90	07/13/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	13000
Aroclor-1232	ND	45000	ND	ND	ND	ND	ND	ND	32000	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	920	10000	13000	1300	ND	ND	ND	67	ND	830
Aroclor-1260	ND	ND	ND	ND	ND	38000	ND	ND	ND	ND

Sample Number	A12B	A12B	A12C	A12C	A12C	A12D	A12D	A12D	A13A	A13A
Sample Depth (ft)	14-17	17-19	4-9	10-13	14-16	6-13	17-20	20-25	9-14	14-19
Date Collected	07/13/90	07/13/90	07/12/90	07/12/90	07/12/90	07/18/90	07/18/90	07/18/90	07/20/90	07/20/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	29000	6700	ND	ND
Aroclor-1254	ND	270	ND	ND	ND	530000	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND	ND	72000	9100	ND	ND

Sample Number	A13A	A13B	A13B	A13B	A13C	A13C	A13C	A13D	A14A	A14A
Sample Depth (ft)	19-20.5	4.5-6	6-9.5	9.5-12	4-8.5	6-13	13-16	18-23	4-9	13.5-23.5
Date Collected	07/20/90	07/11/90	07/11/90	07/11/90	07/12/90	07/12/90	07/12/90	07/19/90	07/20/90	07/20/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	1900	780000	20000	ND	ND	ND	ND
Aroclor-1232	ND	340000	32000	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	100000	18000	350	130000	5500	ND	670	99	62
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	630	ND	ND

µg/kg - Micrograms per kilogram  
 ND - Not detected

## SAUGET Analytical Data

## Dead Creek - Segment A

## SOIL/SEDIMENT SAMPLES

PCBs (µg/kg)

Collected by Advent Group

Sample Number	A14A	A14B	A14B	A14C	A14C	A14C	A14D	A14D	A14D	A15B
Sample Depth (ft)	23.5-28.5	4-8.5	8.5-13	4-8.5	8.5-10.5	13.5-16.5	10-14	15-19	24-29	6-9
Date Collected	07/20/90	07/11/90	07/11/90	07/11/90	07/11/90	07/11/90	07/12/90	07/12/90	07/12/90	07/07/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	100000	5200	190000	ND	5200	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	1700	ND	ND	ND	ND	3700
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	14000	1100	350000	520	1000	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample Number	A15B	A15B	A15C	A15C	A15C	A15D	A15D	A15D	A15D	A16A
Sample Depth (ft)	13-16	16-19	4.5-9	9.5-14.5	14.5-17.5	4-9	12-14	19-24	24-29	9-14
Date Collected	07/07/90	07/07/90	07/10/90	07/10/90	07/10/90	07/12/90	07/12/90	07/12/90	07/12/90	07/20/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	1500	15000	ND	ND	ND	ND	ND
Aroclor-1232	7200	ND	300000	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	1800	ND	68000	180	2300	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample Number	A16A	A16A	A16B	A16B	A16C	A16C	A16C	A16D	A16D	A16D
Sample Depth (ft)	14-19	24-29	9-12	14-19	2-5	7-12	12-17	13-18	18-23	23-31
Date Collected	07/20/90	07/20/90	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/20/90	07/20/90	07/20/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	1600000	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	5400	ND	13000	1100	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND
Aroclor-1254	2100	ND	ND	ND	ND	ND	450	ND	90	ND
Aroclor-1260	860	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample Number	A16E	A16E	A16E	A21B	A21B	A21B	A21C	A21C	A21C	A21D
Sample Depth (ft)	13-18	18-23	25.5-28	1-6	6-10	10-13	4-8	8-11	13-14.5	4-9
Date Collected	07/20/90	07/20/90	07/20/90	07/17/90	07/17/90	07/17/90	07/14/90	07/14/90	07/14/90	07/10/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	520	1300	660	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	290	890	400	ND	200	ND	ND	ND	ND	90
Aroclor-1260	ND	ND	ND	27000	ND	ND	30000	ND	ND	ND

µg/kg - Micrograms per kilogram  
 ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SOIL/SEDIMENT SAMPLES**  
**PCBs (µg/kg)**  
**Collected by Advent Group**

recycled paper

Sample Number	A21D	A21D	A22A	A22A	A22A	A22B	A22B	A22C	A22C	A22D
Sample Depth (ft)	9-14	14-19	9-14	19-22	24-28	0-7	7-13	3-9	10-15	4-9
Date Collected	07/10/90	07/10/90	07/11/90	07/11/90	07/11/90	07/17/90	07/17/90	07/17/90	07/17/90	07/11/90
<b>PCBs</b>										
<b>Aroclor-1016</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1221</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1232</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1242</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1248</b>	ND	ND	ND	ND	ND	120000	ND	ND	ND	ND
<b>Aroclor-1254</b>	150	ND	ND	ND	ND	ND	ND	19000	ND	ND
<b>Aroclor-1260</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	12000

Sample Number	A22D	A22D	A23A	A23A	A23A	A23A	Maximum
Sample Depth (ft)	9-14	24-27	12-13	13-19	19-20	21-23	Concentration
Date Collected	07/11/90	07/11/90	07/14/90	07/14/90	07/14/90	07/14/90	Detected
<b>PCBs</b>							
<b>Aroclor-1016</b>	ND	ND	ND	ND	ND	ND	ND
<b>Aroclor-1221</b>	ND	ND	ND	ND	ND	ND	780000
<b>Aroclor-1232</b>	ND	ND	ND	ND	ND	ND	1800000
<b>Aroclor-1242</b>	ND	ND	ND	ND	ND	ND	13000
<b>Aroclor-1248</b>	ND	ND	3300	5700	150000	1600	150000
<b>Aroclor-1254</b>	ND	ND	ND	ND	ND	ND	530000
<b>Aroclor-1260</b>	ND	ND	690	1200	ND	ND	72000

µg/kg - Micrograms per kilogram.

ND - Not detected

ecology and environment

## SAUGET Analytical Data

## Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES  
PCB Precursor Concentrations (mg/kg)  
Collected by Advent Group

Sample Number	A11B	A11B	A11B	A11C	A11C	A11C	A11D	A12A	A12D	A12D
Sample Depth (ft)	4-8	8.1-10.6	12-17	2-6.5	6.5-10.5	12.5-16.5	18.5-23.5	18-23	6-13	17-20
Date Collected	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/19/90	07/18/90	07/18/90
PCBs										
Biphenyl	6.6 J	1.5 J	0.2	5.2 J	BDL	BDL	BDL	BDL	BDL	0.3
Chlorobiphenyl	BDL	BDL	BDL	0.9 J	BDL	BDL	BDL	0.04	3.6 J	0.03
Dichlorobiphenyl	BDL	BDL	BDL	1.5 J	BDL	BDL	BDL	BDL	35 J	0.3
Trichlorobiphenyl	BDL	BDL	BDL	0.2 J	BDL	BDL	BDL	BDL	60 J	0.7
Tetrachlorobiphenyl	BDL	BDL	0.01	0.1 J	0.3 J	BDL	0.5	0.01	75 J	1
Pentachlorobiphenyl	BDL	BDL	0.04	0.1 J	0.9 J	0.03	1.3	0.02	69 J	1
Hexachlorobiphenyl	BDL	BDL	0.04	BDL	BDL	0.07	3.8	0.05	210 J	2.3
Decachlorobiphenyl	BDL	BDL	BDL	BDL	BDL	BDL	3	BDL	BDL	BDL

Sample Number	A12D	A16A	A16B	A16B	A16C	A16C	A16D	A16D	A16E	A16E
Sample Depth (ft)	20-25	14-19	9-12	14-19	2-5	7-12	18-23	23-31	13-18	18-23
Date Collected	07/18/90	07/20/90	07/18/90	07/18/90	07/18/90	07/18/90	07/20/90	07/20/90	07/20/90	07/20/90
PCBs										
Biphenyl	0.04	BDL	8.3 J	1 J	24 J	1.2 J	0.02	BDL	BDL	BDL
Chlorobiphenyl	0.04	BDL	1.8 J	0.3 J	6 J	0.4 J	BDL	BDL	BDL	BDL
Dichlorobiphenyl	0.06	BDL	5.3 J	0.7 J	26 J	0.8 J	0.03	BDL	BDL	BDL
Trichlorobiphenyl	0.2	0.01	3.8 J	0.5 J	24 J	0.7 J	0.04	BDL	BDL	0.02
Tetrachlorobiphenyl	0.3	0.06	4.3 J	0.3 J	21 J	0.4 J	0.06	0.02	0.04	0.09
Pentachlorobiphenyl	0.3	0.13	BDL	0.2 J	8.6 J	BDL	0.1	0.02	BDL	0.05
Hexachlorobiphenyl	0.7	0.12	BDL	0.08 J	BDL	BDL	0.23	BDL	BDL	BDL
Decachlorobiphenyl	BDL	0.09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sample Number	A16E	Maximum
Sample Depth (ft)	25.5-28	Concentration
Date Collected	07/20/90	Detected
PCBs		
Biphenyl	BDL	24 J
Chlorobiphenyl	BDL	6 J
Dichlorobiphenyl	BDL	35 J
Trichlorobiphenyl	0.03	60 J
Tetrachlorobiphenyl	0.1	75 J
Pentachlorobiphenyl	0.03	69 J
Hexachlorobiphenyl	BDL	210 J
Decachlorobiphenyl	BDL	3

mg/kg - Milligrams per kilogram

BDL - Below detection limit

J - Estimated value

\*\*The following samples showed BDL readings for all precursor parameters

A10 6-7, A10 9-10, A10 15-17, A11A 13-18, A11A 8-13, A11D 8-10, A12A 8-11, A12A 11-20.5, A12A 18-23, A12B 3-7, A12B 9-12, A12B 14-17, A12B 17-19, A13A 9-14, A13A 14-19, A13A 19-20.5, A14A 4-9, A14A 13.5-23.5, A14A 23.5-28.5, A15A 9-14, A15A 11-19, A15A 19-24, A16A 9-14, A16A 24-29, A16C 12-17, A16D 13-18, A16D 18-23, A16E 25.5-28, A21B 6-10, A21B 10-13, A21C 4-8, A21C 8-11, A21C 13-14.5, A22B 7-13, A22C 10-15

Filename: CSAFS1-1.XLS - Table 1 PCB (2)

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SOIL/SEDIMENT SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Advent Group**

Sample Number	A10	A11A	A11B	A11C	A11D	A12A	A12B	A12C	A12D	A13B
Sample Depth (ft)	15-17	8-13	4-8	2-6.5	8-10	8-11	3-7	4-9	17-20	4.5-6
Date Collected	07/13/90	07/19/90	07/18/90	07/18/90	07/18/90	07/19/90	07/13/90	07/12/90	07/18/90	07/11/90
<b>Total Metals</b>										
<b>Silver</b>	ND	ND	ND	8	ND	ND	328	93	ND	154
<b>Aluminum</b>	5150	7380	5870	5430	10300	6270	8050	3780	3170	5480
<b>Arsenic</b>	3.4	13	4.7	23.1	4.4	3.9	ND	184	3	78
<b>Barium</b>	252	240	212	182	2450	197	516	500	244	1980
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND	44.1	1.9	ND	9.1
<b>Calcium</b>	17700	3940	20100	8090	11700	15900	ND	5330	9130	14600
<b>Cadmium</b>	ND	5.2	ND	4.9	ND	ND	393	47	ND	529
<b>Cobalt</b>	ND	ND	15.7	15.3	38.4	ND	ND	ND	ND	ND
<b>Chromium</b>	10.7	222	11.7	27.2	94.2	12.6	553	695	10	581
<b>Copper</b>	19.9	1130	117	3330	2100	103	77700	34800	298	42600
<b>Iron</b>	9990	13800	13800	16700	13100	12100	312000	68100	7310	118000
<b>Mercury</b>	ND	ND	ND	3.1	3.3	ND	27	5.3	ND	17.7
<b>Potassium</b>	ND	1870	1490	1090	ND	1420	ND	ND	ND	ND
<b>Magnesium</b>	6700	2660	6690	4130	2500	7330	ND	ND	3840	ND
<b>Manganese</b>	236	56	440	197	160	150	41.6	139	101	379
<b>Sodium</b>	ND	ND	ND	ND	4540	ND	ND	ND	ND	ND
<b>Nickel</b>	27.5	303	23	301	6940	133	1530	959	47.7	1420
<b>Lead</b>	10.8	72	12.9	278	718	7.6	32400	2380	29.7	15700
<b>Antimony</b>	ND	ND	ND	ND	ND	ND	356	66.1	ND	98
<b>Selenium</b>	ND	ND	1.3	1	0.8	2.5	38.9	28.8	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	16.5	21	19.4	17	33.5	19.4	ND	27.4	12.9	41.5
<b>Zinc</b>	82.5	1410	68.5	1200	655	333	26800	4020	172	21300

mg/kg - Milligrams per kilogram

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SOIL/SEDIMENT SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Advent Group**

Sample Number	A13C	A13D	A14A	A14B	A14C	A14C	A14D	A15B	A15B	A15C
Sample Depth (ft)	4-8.5	18-23	4-9	4-8.5	4-8.5	8.5-10	10-14	6-9	13-16	4.5-9
Date Collected	07/12/90	07/19/90	07/20/90	07/11/90	07/11/90	07/11/90	07/12/90	07/07/90	07/07/90	07/10/90
<b>Total Metals</b>										
<b>Silver</b>	73.5	ND	ND	44.1	141	ND	ND	ND	ND	63.8
<b>Aluminum</b>	4350	5930	5450	3740	4970	7200	4500	7180	1520	4540
<b>Arsenic</b>	145	4.8	2.9	99.5	122	7.6	5.5	11.9	2.4	105
<b>Barium</b>	2180	219	201	5200	1560	250	191	242	57.9	2180
<b>Beryllium</b>	3.4	ND	ND	ND	25.2	ND	ND	1.6	ND	27.8
<b>Calcium</b>	12600	15000	15700	12600	5260	22700	14500	21900	6270	7350
<b>Cadmium</b>	226	ND	ND	49.7	316	2.7	ND	7.3	ND	532
<b>Cobalt</b>	31.4	ND	ND	23	ND	ND	ND	ND	ND	ND
<b>Chromium</b>	452	15.4	10.8	329	402	17	9.8	22.9	4.9	333
<b>Copper</b>	25900	151	48.1	15600	41300	338	41.4	722	28.4	17800
<b>Iron</b>	83100	12100	11800	78100	172000	19800	11200	21200	4240	254000
<b>Mercury</b>	2.3	ND	ND	28.7	12.8	0.16	ND	ND	ND	61.2
<b>Potassium</b>	ND	1220	1250	ND	ND	1720	ND	1630	ND	ND
<b>Magnesium</b>	ND	6400	6580	2710	ND	5980	5180	5880	2100	ND
<b>Manganese</b>	305	249	173	265	163	871	351	622	116	230
<b>Sodium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Nickel</b>	2230	27.4	27.7	1220	1240	47.7	14.2	73.4	ND	1820
<b>Lead</b>	4160	30.2	13.6	1640	20800	88.5	10.6	250	ND	5860
<b>Antimony</b>	48	ND	ND	22.6	175	ND	ND	ND	ND	136
<b>Selenium</b>	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	35.4	19.4	17.4	34.6	ND	25	15.9	24.8	ND	43
<b>Zinc</b>	11500	209	69.8	6080	15000	187	47.9	337	28.1	13700

mg/kg - Milligrams per kilogram

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment A**

**SOIL/SEDIMENT SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Advent Group**

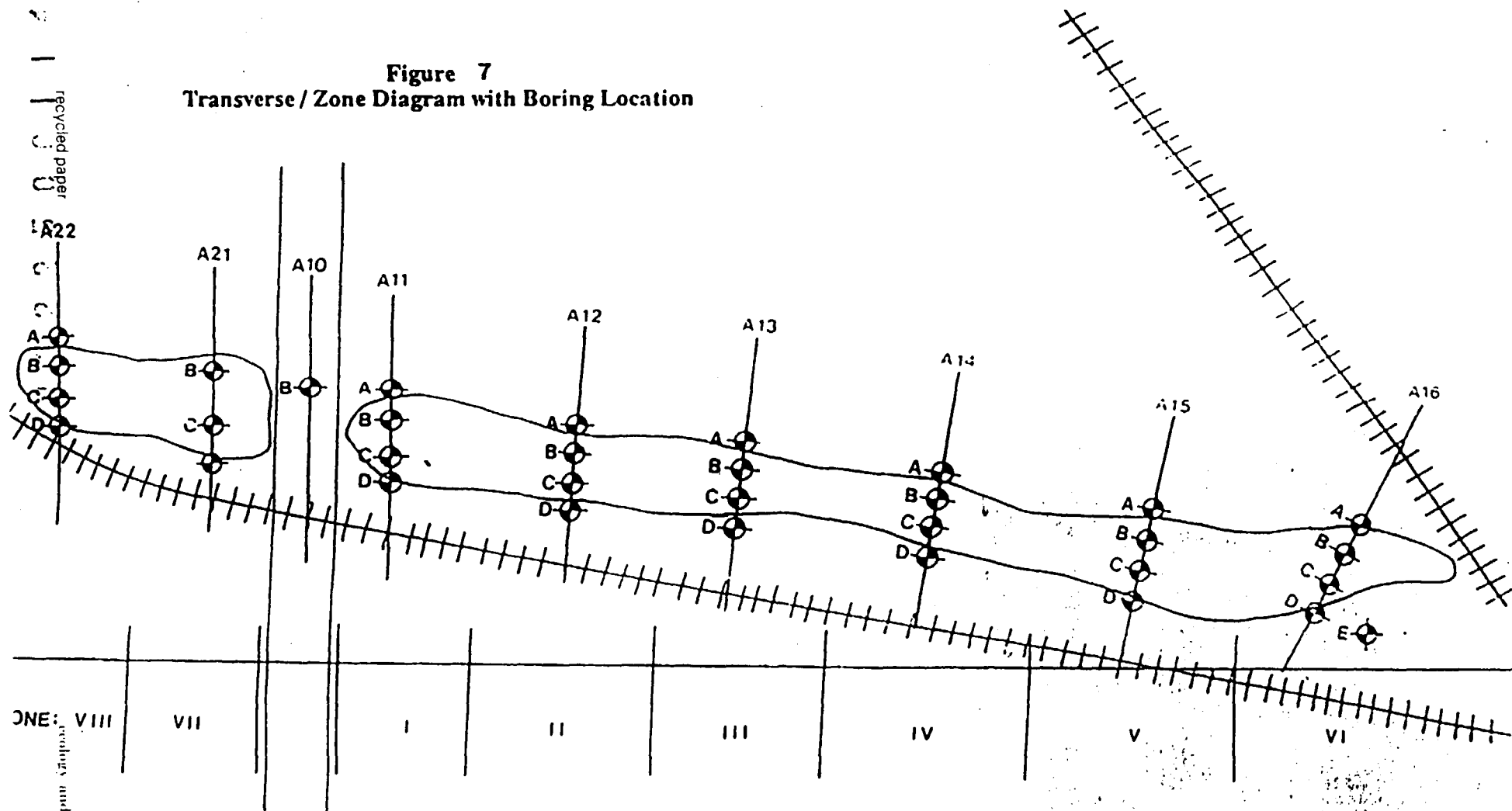
recycled paper  
 technology and environment

Sample Number	A15D	A16B	A16C	A21B	A21C	A21D	A22B	A22C	A23A	Maximum
Sample Depth (ft)	4-9	9-12	2-5	1-6	4-8	14-19	0-7	3-9	19-20	Concentration
Date Collected	07/12/90	07/18/90	07/18/90	07/17/90	07/14/90	07/10/90	07/17/90	07/17/90	07/14/90	Detected
<b>Total Metals</b>										
Silver	ND	55.8	91.9	132	348	ND	2.4	11.9	ND	348
Aluminum	4980	1980	1400	2800	5120	4550	3110	2970	5590	10300
Arsenic	6.4	10.8	7.5	7.6	25.3	ND	6.9	18.5	5.6	194
Barium	170	712	473	529	1050	148	241	414	198	5200
Beryllium	ND	3.1	2.5	2.9	36	ND	ND	ND	ND	44.1
Calcium	13500	9030	7270	17000	12100	12600	12700	12000	26200	26200
Cadmium	ND	52.5	49.4	135	470	ND	2.6	29.2	ND	532
Cobalt	ND	ND	ND	ND	ND	ND	ND	ND	23	38.4
Chromium	11.3	128	119	434	397	12.4	28.7	62	15.6	695
Copper	26	26000	16600	29400	91800	24.7	1160	3510	591	91800
Iron	10800	52300	69900	45700	199000	11300	10100	12600	13800	312000
Mercury	ND	124	93	8.2	16.3	ND	0.17	ND	ND	124
Potassium	1060	ND	ND	ND	ND	ND	ND	ND	ND	1670
Magnesium	5350	1560	ND	1800	ND	4320	4220	2740	5160	7330
Manganese	379	47.7	40.1	228	235	167	194	133	318	871
Sodium	ND	1310	ND	ND	ND	ND	ND	ND	ND	4540
Nickel	15	705	716	562	6410	47.7	95.2	317	56.3	6940
Lead	9.5	3760	2910	10000	30400	12.9	145	749	24	32400
Antimony	ND	117	114	51.8	305	ND	ND	ND	ND	356
Selenium	ND	10.9	5.3	8.8	41.6	ND	0.73	2	ND	41.6
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	15.2	ND	ND	ND	ND	20.3	10.3	11.9	17.4	43
Zinc	52.1	2290	2120	9300	26700	270	373	1510	237	26800

mg/kg - Milligrams per kilogram

ND - Not detected

**Figure 7**  
**Transverse / Zone Diagram with Boring Location**



LOCATION OF BORINGS A10 THRU A16, A21 AND A22

Source: "Site Investigation/Feasibility Study for Creek Segment A" Advent Group, 1990



**Site M and CS-B**

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# **SITE NARRATIVE**

## **SITE M**

### SITE NARRATIVE - SAUGET AREA 1 / Site M

Sample Locations	Sampling Entity	Date Sampled	Data Source
SW-02, SW03	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SD-15 thru SD-17	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
M-1 thru M-7 and South Shore	Geraghty & Miller	11/91 to 1/92	"Site Investigation for Dead Creek Sector B and Sites L and M" prepared for Monsanto Company by Geraghty & Miller, Inc., March 1992
X123,X124,S501, S502	IEPA	9/15/80	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
#6	IEPA	9/25/80	Memo to Division file from T. Powell (Southern Region) sample locations

#### Nature and Extent of Contamination:

VOC concentrations in sediments at Site M were 10.82 mg/kg in one the six samples collected which were analyzed for VOCs. BNA concentrations in sediments ranged from 169.2 to 221.1 mg/kg in 2 of the 6 samples. Pesticides were not detected in any of the four sediment samples analyzed for this parameter group. PCBs were detected at concentrations ranging from 1.7 to 505 mg/kg for 13 of 14 samples. Metals, most notably Cd, Cr, Cu, and Pb, were elevated in most samples.

VOCs were not detected in the 3 surface water samples collected. BNA's were detected at a concentration of 3 µg/L in 1 of the 3 samples. Pesticides were not detected in any of the three surface water samples analyzed. PCBs were detected at concentrations ranging from 0.9 to 4.4 µg/L for 2 of the 5 surface water samples. Metals, most notably Cr and Cu, were elevated in some water samples.

The extent of surface water and sediment contamination in Site M is very well defined due to the numbers of samples and sampling points which have been evaluated in past investigations.

#### Containment and Integrity (if known):

There is no known containment for Site M. The site is a former sand and gravel borrow pit that is approximately 15 feet deep. Site M is connected by a cut-through to CS-B of Dead Creek. Access to the site is restricted by fencing installed by USEPA.

Other Comments: See the attached "Site Description" for more site detail

## **SITE DESCRIPTION - Sauget Area 1/Site M**

Site M is a sand borrow pit excavated by the H.H. Hall Construction Company in the mid- to late-1940's. The pit is located on the east side of Dead Creek at the end of Walnut Street in Cahokia. The dimensions of the pit are 220 feet by 320 feet ( or 59,200 sq. feet). The water in the pit is up to 14 feet deep and is connected to Dead Creek segment B through an eight foot opening at the southwest portion of the pit. Geraghty & Miller results from a Site M investigation showed that approximately 3,600 cubic yards of sediment have been impacted by PCBs at Site M (PCBs above 50 mg/kg). The site is currently fenced.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

# **SITE NARRATIVE**

## **CREEK SEGMENT B**

# **SITE NARRATIVE - SAUGET AREA 1 / Creek Segment B**

Sample Locations	Sampling Entity	Date Sampled	Data Source
SD13,SD14,SD18,SD19,SD20	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SW04,SW05,SW06	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
A-B1 thru J-B1 A-B2 thru J-B2 A-B3 thru J-B3	Geraghty & Miller	10/91	"Site Investigation for Dead Creek Sector B and Sites L and M" prepared for Monsanto Company by Geraghty & Miller, Inc., March 1992
0100301 0100303 0100305	IEPA/ Monsanto	10/2/80	Memo to file from J. Kelly dated November 19, 1980. Re: Cooperative Sampling between IEPA & Monsanto Chemical Co. at Dead Creek, Cahokia IL, on October 2, 1980
SW1	IEPA	5/15/75	Memo to Division of Water Pollution Control from L. Eastep - IEPA dated 5/15/75 Re: Citizen complaint and subsequent sample collection
S501 - S504	IEPA	9/23/93	Letter to Alan Altur (USEPA) from P. Takacs (IEPA) dated November 2, 1993 with sample data and maps attached
S501	IEPA	3/11/94	Letter to Alan Altur (USEPA) from P. Takacs dated November 2, 1993 with sample data and maps attached
X106-X122, X125-X127	IEPA	9/80-10/80	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
P-1	IEPA	1980	Unknown
#1, #2, #3, #4, #5	IEPA	9/25/80	Memo to Division File from T. Powell (southern region) Re: Sample Locations
1,2,10,11,12,13,14,15,16,17,18,19,20,24,25,35,36,37,43,49	IEPA	1980	"Summary of the Phase Two Investigation at Dead Creek" Author unknown, Date unknown

**SITE NARRATIVE - SAUGET AREA 1 / Creek Segment B****Nature and Extent of Contamination:**

VOC concentrations in CS-B sediments ranged from 0.99 to 540 mg/kg for 12 of the 41 samples collected. BNA concentrations in sediments ranged from 0.35 to 30,840 mg/kg for 21 of the 44 samples. Pesticides were not detected in any of the 26 sediment samples analyzed. PCBs were detected at concentrations ranging from 0.17 to 13,000 mg/kg in 55 of the 72 sediment samples. Metals, most notably Cd, Cr, Cu and Hg were elevated in sediment samples throughout the segment.

VOC concentrations in surface water ranged from 3 to 54  $\mu\text{g/L}$  for 4 of the 7 samples. BNA concentrations in surface waters ranged from 0.009 to 214  $\mu\text{g/L}$  for 5 of the 7 samples. Pesticides were detected in one of the 7 surface water samples analyzed at a concentration of 50.88  $\mu\text{g/L}$ . PCBs were detected at concentrations ranging from 3.6 to 44  $\mu\text{g/L}$  in 3 of the 5 surface water samples. Metals, most notably Cu and Hg were elevated in some surface water samples collected.

The extent of contamination in CS-B is extremely well defined due to the volume of samples collected and locations of those samples.

**Containment and Integrity (if known):**

There is no known containment for the contaminated sediments in CS-B. However, access is somewhat restricted via fencing which was installed by USEPA in 1982, although some accessible breaches in the fencing exist.

Other Comments: See the attached "Site Description" for more site details.

## **SITE DESCRIPTION - Sauget Area 1/Creek Segment B**

Creek Segment B (CS-B) includes 1,800 feet of an intermittent portion of Dead Creek which lies between Queeny Avenue to the north and Judith Lane to the south. Three Sauget Area 1 sites (Sites G, L, and M) are adjacent to CS-B, and all are considered to be possible contributing sources of contamination identified in CS-B. In addition, CS-B previously received discharges from CS-A and from an outfall which originated at the Midwest Rubber Company. Geraghty & Miller estimated a volume of 3,300 cubic yards of sediment (the upper 2 feet) have been impacted by contaminants in CS-B. The banks of the creek are heavily vegetated, and debris is scattered throughout the northern portion of CS-B. The entire length of CS-B was fenced by USEPA in 1982. Near the southern portion of CS-B, Dead Creek is connected to Site M by an 8-foot wide cut-through.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report and from a Site Summary for Sauget Area 1 Sites, both prepared by IEPA)



**Site M Data**

**SAUGET Analytical Data  
Site M**

**SURFACE WATER SAMPLES  
Volatile Organic Compounds (µg/L)  
Collected by Ecology & Environment, Inc. (11/86)**

recycled paper

Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	Concentration
VOC	BLANK			Detected
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	6 B	3 BJ	3 BJ	6 B
Acetone	12 B	ND	7 BJ	12 B
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	27	ND	ND	27
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

J- Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site M**

**SURFACE WATER SAMPLES  
Base Neutrals/Acids (µg/L)  
Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	Concentration
<b>BNAs</b>	<b>BLANK</b>			<b>Detected</b>
Phenol	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected as blank

J - Estimated value

ND - Not detected

# SAUGET Analytical Data Site M

## SURFACE WATER SAMPLES Base Neutrals/Acids (µg/L) Collected by Ecology & Environment, Inc. (11/86)

recycled paper

	Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
BNAs		BLANK			Detected
2,4-Dinitrophenol		ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND
Fluorene		ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND
Pentachlorophenol		ND	ND	ND	ND
Phenanthrene		ND	ND	ND	ND
Anthracene		ND	ND	ND	ND
Di-n-butyl phthalate		15 B	26 B	25 B	26 B
Fluoranthene		ND	ND	ND	ND
Pyrene		ND	ND	ND	ND
Butyl Benzyl phthalate		ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	ND	ND	ND
Chrysene		ND	ND	ND	ND
Di-n-octyl phthalate		ND	4 J	2 J	4 J
Benzo(b)fluoranthene		ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND
Benzo(g,h,i)perylene		ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

# SAUGET Analytical Data Site M

## SURFACE WATER SAMPLES Total Metals (µg/L) Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Total Metals		BLANK			Detected
Aluminum		ND	464	ND	464
Antimony		ND	ND	ND	ND
Arsenic		ND	ND	ND	ND
Barium		ND	200	ND	200
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		ND	ND	ND	ND
Chromium		ND	14	ND	14
Cobalt		ND	ND	ND	ND
Copper		ND	51	46	51
Iron		255	937	350	937
Lead		ND	6.4	ND	6.4
Manganese		ND	97	95	97
Mercury		ND	ND	ND	ND
Nickel		ND	46	ND	46
Selenium		ND	ND	ND	ND
Silver		ND	ND	ND	ND
Thallium		ND	ND	ND	ND
Tin		ND	ND	ND	ND
Vanadium		ND	ND	ND	ND
Zinc		ND	186	73	186
Cyanide		ND	ND	ND	ND

µg/L - Micrograms per liter

ND - Not detected

# SAUGET Analytical Data Site M

## SURFACE WATER SAMPLES Pesticides/PCBs (µg/L) Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Pesticides/PCBs		BLANK			Detected
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

µg/L - Micrograms per liter

ND - Not detected

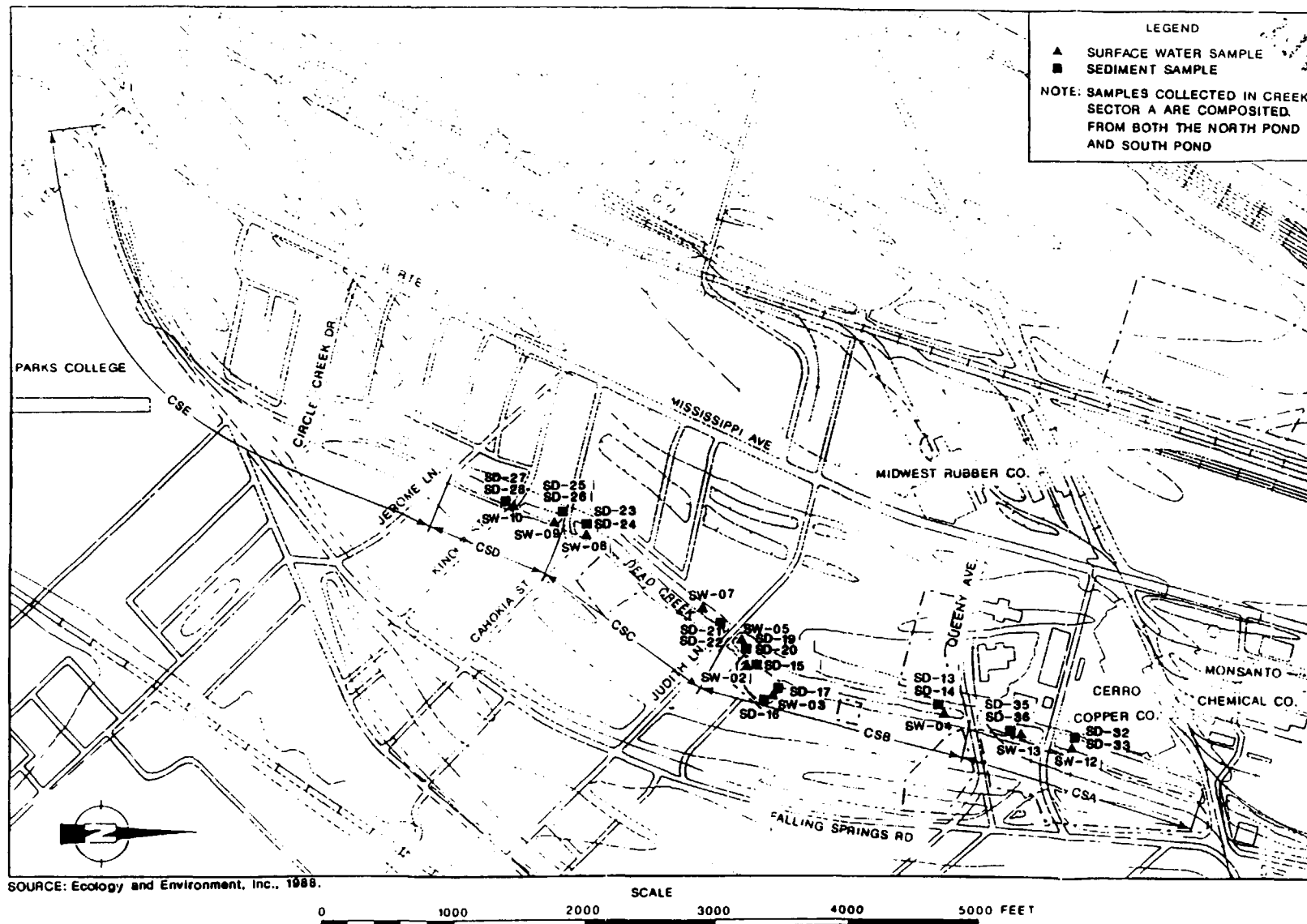


FIGURE 3-5 SURFACE WATER AND SEDIMENT  
SAMPLING LOCATIONS IN DEAD  
CREEK AND SITE M

**SAUGET Analytical Data**  
**Dead Creek - Site M**

**SEDIMENT SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

recycled paper

Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	Detected
VOC				
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	7800 B	10000 B	8400 B	10000 B
Acetone	4900 B	5100	5600 JB	5600 JB
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	11000	14000	13000	14000
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

µg/kg - Micrograms per kilogram  
 B - Compound detected in blank  
 J - Estimated value  
 NA - Not applicable  
 ND - Not detected



**SAUGET Analytical Data**  
**Dead Creek - Site M**

**SEDIMENT SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	Detected
<b>BNAs</b>				
Phenol	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND

(µg/kg) - Micrograms per kilogram

J - Estimated value

NA - Not applicable

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Site M**

**SEDIMENT SAMPLES**  
**Base Neutrals/Acids ( $\mu\text{g}/\text{kg}$ )**  
**Collected by Ecology & Environment, Inc. (11/86)**

recycled paper

Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	Detected
<b>BNAs</b>				
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Di-n-butyl phthalate	580 B	570 BJ	560 J	580 J
Fluoranthene	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	540 J	150 J	540 J
Chrysene	ND	ND	ND	ND
Di-n-octyl phthalate	120 J	270 J	ND	270 J
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

( $\mu\text{g}/\text{kg}$ ) - Micrograms per kilogram

J - Estimated value

NA - Not applicable

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Site M**

**SEDIMENT SAMPLES**  
**Pesticides/PCBs (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
	Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	Detected
<b>Pesticides/PCBs</b>					
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	20000	ND	20000
Aroclor-1248		660	8830	5200	8830
Aroclor-1254		670	ND	4200	4200
Aroclor-1260		430 J	ND	2700 J	2700 J

µg/kg - Micrograms per kilogram

J - Estimated value

NA - Not applicable

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Site M**

**SEDIMENT SAMPLES**

**Total Metals (mg/kg)**

**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	Detected
<b>Total Metals</b>				
Aluminum	6560	2430	7510	7510
Antimony	ND	ND	ND	ND
Arsenic	3.6 R	12 R	16 R	16 R
Barium	156	131	196	196
Beryllium	ND	ND	ND	ND
Boron	ND	ND	ND	ND
Cadmium	1.5	11	8	11
Chromium	15	37	63	63
Cobalt	7.7	7.2	5	7.7
Copper	167 *	1270 *	1780	1780
Iron	11100	26000	14400	26000
Lead	26	65	71	71
Manganese	100	97	139	139
Mercury	0.13	0.56	0	0.56
Nickel	356 R*	258 R*	309 R*	356 R*
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Thallium	ND	ND	ND	ND
Tin	ND	23	ND	23
Vanadium	19	ND	19	19
Zinc	868	872	1010	1010
Cyanide	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

NA - Not applicable

ND - Not detected

R - Spike sample recovery not within control limits

- Duplicate analysis not within control limits

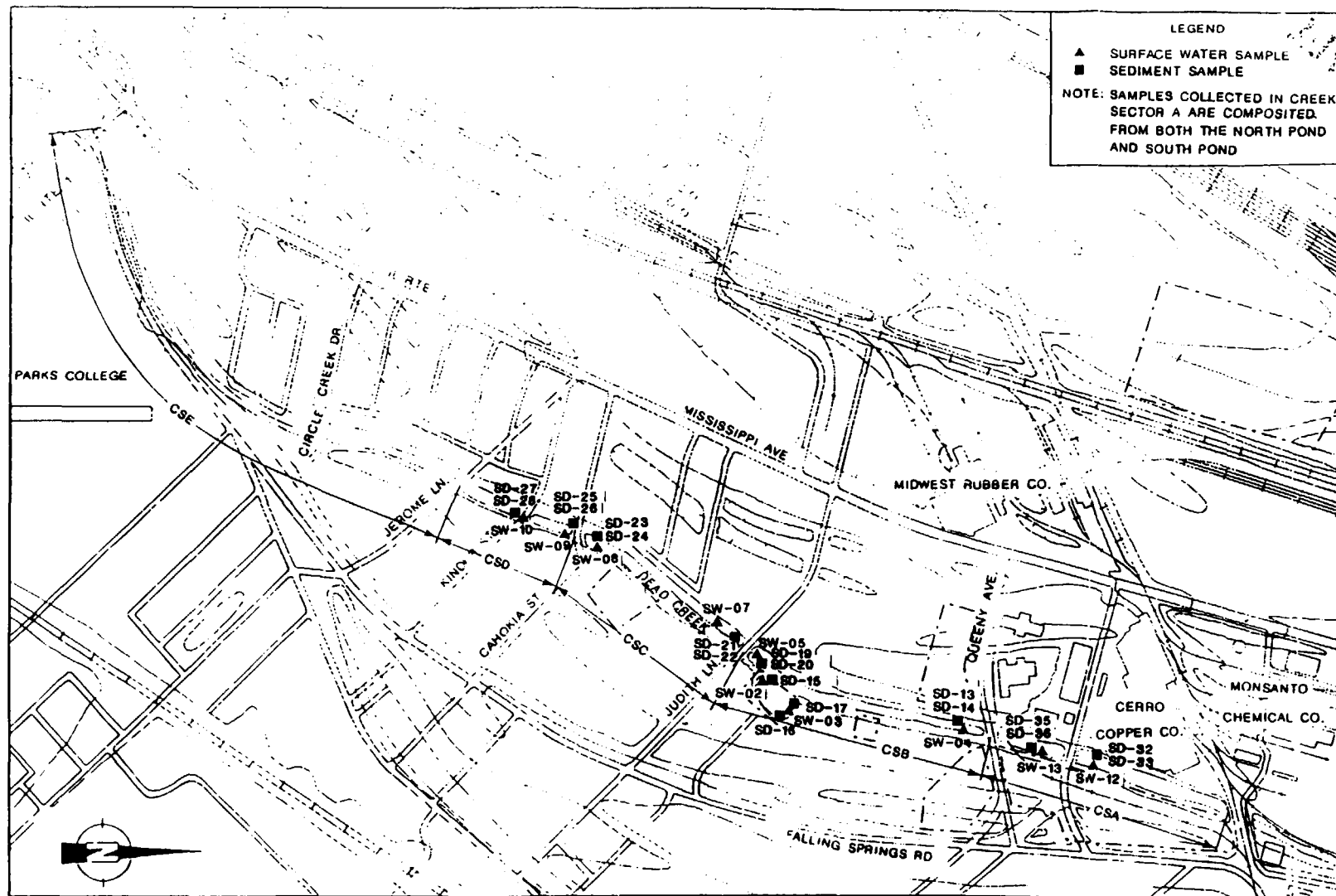


FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

**SAUGET Analytical Data  
Site M**

**SEDIMENT/SURFACE WATER SAMPLES  
Volatile Organic Compounds  
Collected by Geraghty & Miller, Inc.**

Sample Number	M3	M-4A	Maximum	South Shore	Equipment	Maximum
Sample Depth (ft)	0-8	0-1	Sediment	Surface Water	Blank	Water
Date Collected	11/05/91	01/07/92	Concentration	01/08/92	11/5/91	Concentration
VOC	mg/kg	mg/kg	mg/kg	µg/L	µg/L	µg/L
Methylene chloride	<2.2 J	<2.6 J	<2.6 J	<5.0 J	1.0 J	1 J
Acetone	<4.5 J	<52 J	<52 J	<100 J	<10	<100 J
Carbon disulfide	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0 J	<5.0 J
2-Butanone	<4.5 J	<52 J	<52 J	<100 J	<10	<100 J
Benzene	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0 J	<5.0 J
Tetrachloroethene	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0	<5.0 J
Toluene	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0 J	<5.0 J
Chlorobenzene	10 J	<2.6 J	10 J	<5.0 J	<5.0 J	<5.0 J
Ethylbenzene	0.82 J	<2.6 J	0.82 J	<5.0 J	<5.0 J	<5.0 J
Xylenes	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0 J	<5.0 J
Chloroform	<2.2 J	<2.6 J	<2.6 J	<5.0 J	21	21
1,1,1-Trichloroethane	<2.2 J	<2.6 J	<2.6 J	<5.0 J	2.0 J	2 J

mg/kg - Milligrams per kilogram

µg/L - Micrograms per liter

J - Estimated value

**SAUGET Analytical Data**  
**Site M**

**SEDIMENT/SURFACE WATER SAMPLES**

**Base Neutrals/Acids**

Collected by Geraghty & Miller, Inc.

Sample Number	M3	M-4A	Maximum	South Shore	Equipment	Maximum
Sample Depth (ft)	0-8	0-1	Sediment	Surface Water	Blank	Water
Date Collected	11/05/91	01/07/92	Concentration	01/08/92	11/05/91	Concentration
	mg/kg	mg/kg	mg/kg	µg/L	µg/L	µg/L
<b>BNAs</b>						
Phenol	<12	<14	<14	<10	<10	<10
2-Chlorophenol	<12	<14	<14	<10	<10	<10
1,3-Dichlorobenzene	4.1 J	2.3 J	4.1 J	<10	<10	<10
1,4-Dichlorobenzene	40	27	40	<10	<10	<10
1,2-Dichlorobenzene	26	3.3 J	26	<10	<10	<10
4-Methylphenol	<12	<14	<14	<10	<10	<10
Isophorone	<12	<14	<14	<10	<10	<10
2,4-Dimethylphenol	<12	<14	<14	<10	<10	<10
2,4-Dichlorophenol	<12	<14	<14	<10	<10	<10
1,2,4-Trichlorobenzene	14	5 J	14	<10	<10	<10
Naphthalene	3.3 J	2.6 J	3.3 J	<10	<10	<10
4-Chloroaniline	<12	<14	<14	<10	<10	<10
2-Methylnaphthalene	6.9 J	1.6 J	6.9 J	<10	<10	<10
2,4,6-Trichlorophenol	<12	<14	<14	<10	<10	<10
2,4,6-Trichlorophenol	<59	<14	<59	<10	<50	<50
Acenaphthylene	<12	<14	<14	<10	<10	<10
Acenaphthene	<12	1.5 J	1.5 J	<10	<10	<10
Dibenzofuran	<12	2.1 J	2.1 J	<10	<10	<10
Diethylphthalate	<12	<14	<14	<10	<10	<10
Fluorene	5.2 J	5.9 J	5.9 J	<10	<10	<10
N-Nitrosodiphenylamine	<12	<14	<14	<10	<10	<10
Hexachlorobenzene	<12	<14	<14	<10	<10	<10
Pentachlorophenol	<59	<69	<69	<50	<50	<50
Phenanthrene	11 J	13 J	13 J	<50	<10	<50
Anthracene	2.5 J	3.9 J	3.9 J	<50	<10	<50
Di-n-butyl phthalate	<12	<14	<14	<50	<10	<50
Fluoranthene	21	21	21	<50	<10	<50
Pyrene	23	27	27	<50	<10	<50
Butyl Benzyl phthalate	<12	1.6 J	1.6 J	<50	0.2 J	0.2 J
Benzo (a)anthracene	9.4 J	9.2	9.4 J	<50	<10	<50
bis(2-ethylhexyl)phthalate	18 B	<14	18 B	<50	<10	<50
Chrysene	12	9.9 J	12	<50	<10	<50
Benzo(b)fluoranthene	15	6.4 J	15	<50	<10	<50
Benzo(k)fluoranthene	9.3 J	6.6 J	9.3 J	<50	<10	<50
Benzo(a)pyrene	7.5 J	6.9 J	7.5 J	<50	<10	<50
Indeno(1,2,3-cd)pyrene	3.7 J	4.4 J	4.4 J	<50	<10	<50
Dibenzo(a,h)anthracene	1.2 J	<14	1.2 J	<50	<10	<50
Benzo(g,h,i)perylene	6 J	6 J	6 J	<50	<10	<50
Benzoic Acid	NA	NA	NA	3 J	NA	3 J

mg/kg - Milligrams per kilogram

µg/L - Micrograms per liter

B - Compound detected in blank sample

J - Estimated value

NA - Parameter not analyzed

**SAUGET Analytical Data  
Site M**

**SEDIMENT/SURFACE WATER SAMPLES**

**Total Metals**

Collected by Geraghty & Miller, Inc.

Sample Number	M1	M2	M3	Maximum	South Shore	Equipment	Maximum
Sample Depth (ft)	0-3	0-3.5	0-8	Sediment	Surface Water	Blank	Water
Date Collected	11/05/91	11/05/91	11/05/91	Concentration	01/08/92	11/05/91	Concentration
Total Metals	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	µg/L	µg/L
Aluminum	4670	7220	7290	7290	<200	<200	<200
Antimony	<30.8 J	16.6 BJ	41.2 J	41.2 J	<50	<50	<50
Barium	1760	3080	9060	9060	140	<10.0	140
Cadmium	17.2	8.6	47.2	47.2	<5.0	<5.0	<5.0
Calcium	11500	6560	12500	12500	46000	395 B	46000
Chromium	80	89.5	183	183	<10	<10	<10
Cobalt	18.8 B	9.1 B	20.6 B	20.6 B	<10	<10	<10
Copper	8160	13400	21000	21000	200	81.4	200
Iron	16300	20600	48500	48500	270	<50	270
Magnesium	6200	3090	4340	6200	3900	<50	3900
Manganese	164	162	178	178	56	<10.0	56
Nickel	1390	969	2490	2490	<40.0	<40.0	<40.0
Potassium	758 B	1080 B	989 B	1080 B	3700	<1000	3700
Silver	18	19.6	26 J	26 J	<10.0	<10.0	<10.0
Sodium	<309	211 B	<338	211 B	20000	<500	20000
Vanadium	19.3 B	29.3	37.7	37.7	<10.0	<10.0	<10.0
Zinc	9930	12300	31600	31600	130	<20	130
Mercury	0.07	0.38	0.45	0.45	<0.20	<0.20	<0.20
Lead	625	796	1910	1910	11 J	<3.0	11 J
Selenium	<3.1	<1.6 J	<3.2 J	<3.2 J	<10.0	5	5
Arsenic	25.2 J	7 J	94 J	94 J	<10.0	<10.0	<10.0
Cyanide	NA	NA	1.3 J	1.3 J	<10.0	<10.0	<10.0

mg/kg - Milligrams per kilogram

µg/L - Micrograms per liter

B - Estimated value The value is less than the CRDL, but greater than the instrument detection limit

J - Estimated value

NA - Parameter not analyzed



**SAUGET Analytical Data  
Site M**

**SEDIMENT/SURFACE WATER SAMPLES  
PCBs**

Collected by Geraghty & Miller, Inc.

	Sample Number	M1	M2	M3	M-1A	M-2A	M-3A	M-4A	M-5A	M-6A	M-7A	Maximum.
	Sample Depth (ft)	0-3	0-3.5	0-8	0-1	0-1	0-1	0-1	0-1	0-1	0-1	Sediment
	Date Collected	11/05/91	11/05/91	11/05/91	01/07/92	01/07/92	01/07/92	01/07/92	01/07/92	01/07/92	01/07/92	Concentration
Pesticides/PCBs		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aroclor-1248		13	6.9	210	16	67	110	140	110	260	21 J	260
Aroclor-1254		8 X	4.2 X	81 J	31	77	63	120	110	190	54	190
Aroclor-1260		8.3	3.8 J	72 J	16	43	19 J	51	39	55	22 J	72 J
Total PCBs		29.3	14.9	363	63	187	192	311	259	505	97	505

	Sample Number	South Shore	Equipment	Maximum
	Sample Depth (ft)	Surface Water	Blank	Water
	Date Collected	01/08/92	11/05/91	Concentration
Pesticides/PCBs		µg/L	µg/L	µg/L
Aroclor-1248		<0.50	<0.50	<0.50
Aroclor-1254		<0.50	<1.0	<0.50
Aroclor-1260		<0.50	<1.0	<0.50
Total PCBs		0	0	0

mg/kg - Milligrams per kilogram

µg/L - Micrograms per liter

J - Estimated value

X - Due to the presence of Aroclor 1248, 1254, and 1260, the quantitation is based on one peak only.

**SAUGET Analytical Data  
Site M**

**SEDIMENT SAMPLES  
RCRA Hazardous Characteristic Parameters  
Collected by Geraghty & Miller, Inc.**

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Sample Number	M1, M2, M3	Composite M3	Maximum
Sample Depth (ft)	Regulatory	0-8	0-5
Date Collected	Limit	11/05/91	12/04/91
			Concentration
			Detected
Ignitability - Flash point	<140 deg. F	non-ignitable	NA
Corrosivity (pH units)	<2 or >12.5	7.2	NA
Reactivity (mg/kg)dry wt.			
Sulfide	500	500	<4.5
Cyanide	250	<1.6	NA
TCLP VOLATILES (mg/L)			
Benzene	0.5	<0.020	NA
Carbon tetrachloride	0.5	<0.020	NA
Chlorobenzene	100	0.076 (0.063) *	NA
Chloroform	6	<0.020	NA
1,2-Dichloroethane	0.5	<0.020	NA
1,1-Dichloroethylene	0.7	<0.020	NA
2-Butanone (MEK)	200	<0.40	NA
Tetrachloroethylene	0.7	<0.020	NA
Trichloroethylene	0.5	<0.020	NA
Vinyl chloride	0.2	<0.040	NA
TCLP SEMIVOLATILES (mg/L)			
Cresol (o)	200	<0.050	NA
Cresol (m,p)	200	<0.050	NA
1,4-Dichlorobenzene	7.5	<0.050	NA
2,4-Dinitrotoluene	0.13	<0.050	NA
Hexachlorobenzene	0.13	<0.050	NA
Hexachlorobutadiene	0.5	<0.050	NA
Hexachloroethane	3	<0.050	NA
Nitrobenzene	2	<0.050	NA
Pentachlorophenol	100	<0.25	NA
2,4,5-Trichlorophenol	400	<0.25	NA
2,4,6-Trichlorophenol	2	<0.050	NA
Pyridine	5	<0.25	NA

NA - Parameter not analyzed.

\* Methods SW-846-1311 - Toxicity characteristic leaching procedure (TCLP) results which are above the quantitation limit have been corrected by analytical bias per instructions in Section 8.2.5 of Method 1311 (Federal Register, June 29, 1990). The first number reported is the corrected TCLP value (used to determine if the sample is hazardous) and the value in parenthesis ( ) is the uncorrected analytical results.

**SAUGET Analytical Data  
Site M**

**SEDIMENT SAMPLES  
RCRA Hazardous Characteristic Parameters  
Collected by Geraghty & Miller, Inc.**

Sample Number		M1, M2, M3	Composite M3	Maximum
Sample Depth (ft)	Regulatory	0-8	0-5	Concentration
Date Collected	Limit	11/05/91	12/04/91	Detected
<b>TCLP PESTICIDES (mg/L)</b>				
Chlorodane	0.0?	<0.0050	NA	<0.0050
Endrin	0.02	<0.0010	NA	<0.0010
Heptachlor	0.008	<0.00050	NA	<0.00050
Heptachlor epoxide	0.008	<0.00050	NA	<0.00050
Lindane (g-BHC)	0.4	<0.00050	NA	<0.00050
Methoxychlor	10	<0.025	NA	<0.025
Toxaphene	0.5	<0.050	NA	<0.050
<b>TCLP HERBICIDES (mg/L)</b>				
2,4-D	10	<0.050	NA	<0.050
Silvex (2,4,5-TP)	1	<0.010	NA	<0.010
<b>TCLP METALS (mg/L)</b>				
Arsenic	5	<0.20	NA	<0.20
Barium	100	3.7 (3.5) *	NA	3.7 *
Cadmium	1	0.037 (0.031) *	NA	0.037 *
Chromium	5	<0.050	NA	ND
Lead	5	0.52 (0.44) *	NA	0.52 *
Mercury	0.2	<0.020	NA	<0.020
Selenium	1	<0.50	NA	<0.50
Silver	5	<0.010	NA	<0.010

NA - Parameter not analyzed

\* Methods SW-846-1311 - Toxicity characteristic leaching procedure (TCLP) results which are above the quantitation limit have been corrected by analytical bias per instructions in Section 8.2.5 of Method 1311 (Federal Register, June 29, 1990). The first number reported is the corrected TCLP value (used to determine if the sample is hazardous) and the value in parenthesis () is the uncorrected analytical results

DRAFTER W.H. CICU

APPROVED: B.A. BLUM

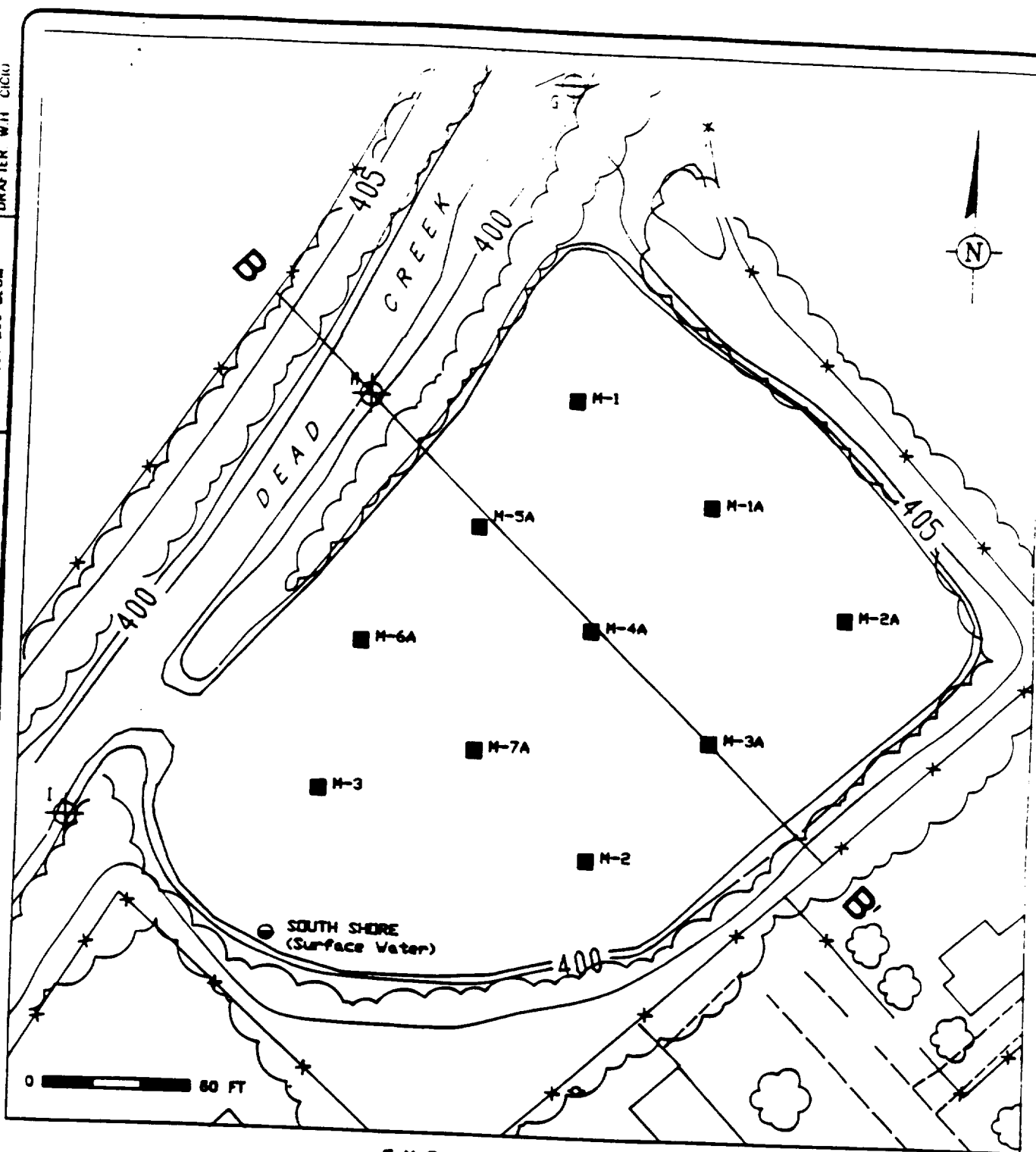
CHECKED: B.A. BLUM

DRAWING: SUPNET-M

FILE NO.: 1444

PROJECT NO.: NY60508

DWG DATE: 28JAN92



**EXPLANATION**

- B-B'** LINE OF CROSS SECTION
- M-3** SEDIMENT SAMPLING/ANALYSIS LOCATION AND DESIGNATION
- 400** ELEVATION (MEAN SEA LEVEL)
- +** SURFACE-WATER SAMPLE LOCATION
- +** DEAD CREEK BORING PROFILE LOCATION AND DESIGNATION

**GERAGHTY & MILLER, INC.**  
Environmental Services

**SAMPLING NETWORK  
SITE M, CAHOKIA, ILLINOIS**

**FIGURE  
2-3**

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MONSANTO COMPANY

ecology and environment  
ST. LOUIS, MISSOURI

# SAUGET Analytical Data Site M

## WATER SAMPLES (mg/L)/SEDIMENT SAMPLES (mg/kg)

Collected by IEPA (9/15/80)

Sample Number Date Collected Sample Matrix	S 501 9/15/80 Water	S 502 9/15/80 Water	Maximum Water Concentration	x123 9/15/80 Sediment	x124 9/15/80 Sediment	Maximum Sediment Concentration
Alkalinity	80	85	86	NA	NA	NA
Arsenic	0.006	0.01	0.01	NA	NA	NA
Barium	0.2	0.5	0.5	4400	350	4400
Beryllium	NA	NA	NA	3	1	3
BOD-5	4	33	33	NA	NA	NA
Boron	0.2	0.2	0.2	ND	25	25
Cadmium	ND	ND	ND	40	4	40
Calcium	NA	NA	NA	12500	4500	12500
COD	58	85	85	NA	NA	NA
Chloride	27	28	28	NA	NA	NA
Chromium	ND	ND	ND	150	50	150
Copper	0.035	0.33	0.33	18700	4500	18700
Cyanide	0.02	ND	0.4	NA	NA	NA
Fluoride	0.4	0.4	0.4	NA	NA	NA
Iron	0.8	1.8	1.8	49000	13500	49000
Lead	ND	0.01	0.01	1400	130	1400
Magnesium	6	6	6	3400	3500	3500
Manganese	0.06	0.82	0.82	200	80	200
Mercury	ND	ND	ND	NA	NA	NA
Nickel	0.02	0.05	0.05	1600	590	1600
Phenol	0.01	0.01	0.01	NA	NA	NA
Phosphorus	0.17	0.31	0.31	NA	NA	NA
Potassium	5.9	6.2	6.2	950	1000	1000
Silver	ND	ND	ND	30	6	30
Sodium	24	25	25	650	100	650
Strontium	NA	NA	NA	175	27	175
Vanadium	NA	NA	NA	42	19	42
Zinc	0.1	0.7	0.7	17700	2600	17700
PCB	0.0009	0.0044	0.0044	1100	24	1100
Dichlorobenzene	NA	NA	NA	NA	NA	NA

mg/L - Milligrams per liter

mg/kg - Milligrams per kilogram

NA - parameter not analyzed

ND - below detection limits

**SAUGET Analytical Data  
Site M**

**SURFACE WATER SAMPLE  
Volatile Organic Compounds (µg/L)  
Collected BY IEPA (3/11/94)**

	Sample Number	S501	Maximum
	Date Collected	3/11/94	Concentration
VOC			Detected
Chloromethane		ND	ND
Bromomethane		ND	ND
Vinyl chloride		ND	ND
Chloroethane		ND	ND
Methylene chloride		ND	ND
2-Propenal		ND	ND
Acrylonitrile		ND	ND
Trichlorofluoromethane		ND	ND
1,1-Dichloroethene		ND	ND
1,1-Dichloroethane		ND	ND
1,2-Dichloroethene (total)		ND	ND
Chloroform		ND	ND
1,2-Dichloroethane		ND	ND
1,1,1-Trichloroethane		ND	ND
Carbon Tetrachloride		ND	ND
Bromodichloromethane		ND	ND
1,2-Dichloropropane		ND	ND
cis-1,3-dichloropropene		ND	ND
Trichloroethene		ND	ND
Dibromochloromethane		ND	ND
1,1,2-Trichloroethane		ND	ND
Chloroethylvinylether		ND	ND
Benzene		2 J	2
trans-1,3-Dichloropropene		ND	ND
Bromoform		ND	ND
Tetrachloroethene		ND	ND
1,1,2,2-Tetrachloroethane		ND	ND
Toluene		19	19
Chlorobenzene		33	33
Ethylbenzene		ND	ND

µg/L - Micrograms per liter.

J - Estimated value.

ND - Not detected

**SAUGET Analytical Data  
Site M**

**SURFACE WATER SAMPLE  
Base Neutrals/Acids (µg/L)  
Collected BY IEPA (3/11/94)**

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Sample Number	S 501	Maximum
Date Collected	3/11/94	Concentration
BNAs		Detected
Phenol	28	28
bis(2-chloroethyl)ether	ND	ND
2-Chlorophenol	14	14
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	5 J	5 J
1,2-Dichlorobenzene	ND	ND
bis(2-chloroisopropyl)ether	ND	ND
N-nitroso-Di-propylamine	ND	ND
Hexachloroethane	ND	ND
Nitrobenzene	ND	ND
Isophorone	ND	ND
2-Nitrophenol	ND	ND
2,4-Dimethylphenol	13	13
bis-(2-Chloroethoxy)Methane	ND	ND
2,4-Dichlorophenol	150	150
1,2,4-Trichlorobenzene	2 J	2 J
Naphthalene	ND	ND
Hexachlorobutadiene	ND	ND
4-Chloro-3-Methylphenol	ND	ND
Hexachlorocyclopentadiene	ND	ND
2,4,6-Trichlorophenol	6 J	6 J
2,4,5-Trichlorophenol	6 J	6 J
2-Chloronaphthalene	ND	ND
Dimethyl Phthalate	ND	ND
Acenaphthylene	ND	ND
2,6-Dinitrotoluene	ND	ND
Acenaphthene	ND	ND
2,4-Dinitrophenol	ND	ND
4-Nitrophenol	ND	ND
2,4-Dinitrotoluene	ND	ND
Diethylphthalate	3 J	3 J
4-Chlorophenyl-phenylether	ND	ND
Fluorene	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND
N-Nitrosodiphenylamine	ND	ND
4-Bromophenyl-phenylether	ND	ND

µg/L - Micrograms per liter.

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site M**

**SURFACE WATER SAMPLE  
Base Neutrals/Acids (µg/L)  
Collected BY IEPA (3/11/94)**

Sample Number	S 501	Maximum
Date Collected	3/11/94	Concentration
BNAs		Detected
Hexachlorobenzene	ND	ND
Pentachlorophenol	120	120
Phenanthrene	ND	ND
Anthracene	ND	ND
Di-N-Butylphthalate	ND	ND
Fluoranthene	ND	ND
Pyrene	ND	ND
Butylbenzylphthalate	ND	ND
3,3'-Dichlorobenzidine	ND	ND
Benzo(a)Anthracene	ND	ND
Chrysene	ND	ND
bis(2-Ethylhexyl)Phthalate	ND	ND
Di-n-Octyl Phthalate	ND	ND
Benzo(b)Fluoranthene	ND	ND
Benzo(k)Fluoranthene	ND	ND
Benzo(a)Pyrene	ND	ND
Indeno(1,2,3-cd)Pyrene	ND	ND
Dibenzo(a,h)Anthracene	ND	ND
Benzo(g,h,i)Perylene	ND	ND

µg/L - Micrograms per liter.

J - Estimated value

ND - Not detected.



**SAUGET Analytical Data  
Site M**

**SURFACE WATER SAMPLE  
Pesticides/PCBs ( $\mu\text{g/L}$ )  
Collected BY IEPA (3/11/94)**

recycled paper

Sample Number	S 501	Maximum
Date Collected	3/11/94	Concentration
Pesticides/PCBs		Detected
alpha-BHC	ND	ND
beta-BHC	ND	ND
delta-BHC	ND	ND
gamma-BHC (Lindane)	ND	ND
Heptachlor	ND	ND
Aldrin	ND	ND
Heptachlor epoxide	ND	ND
Endosulfan I	ND	ND
Dieldrin	0.18	0.18
4,4'-DDE	ND	ND
Endrin	ND	ND
Endosulfan II	0.06	0.06
4,4'-DDD	ND	ND
Endosulfan sulfate	ND	ND
4,4'-DDT	0.24	0.24
Methoxychlor	ND	ND
Endrin Ketone	ND	ND
Chlorodane	ND	ND
Toxaphene	ND	ND
Endrin Aldehyde	ND	ND
Aroclor 1016	ND	ND
Aroclor 1221	ND	ND
Aroclor 1232	ND	ND
Aroclor 1242	ND	ND
Aroclor 1248	ND	ND
Aroclor 1254	ND	ND
Aroclor 1260	ND	ND

 $\mu\text{g/L}$  - Micrograms per liter

ND - Not detected

12-000000-01

**SAUGET Analytical Data  
Site M**

**SURFACE WATER SAMPLE  
Total Metals (µg/L)  
Collected BY IEPA (3/11/94)**

	Sample Number	S 501	Maximum
	Date Collected	3/11/94	Concentration
Metals			Detected
Aluminum		NA	ND
Antimony		ND	ND
Arsenic		3.7 BW	3.7 BW
Barium		NA	ND
Beryllium		ND	ND
Cadmium		5.1	5.1
Calcium		NA	ND
Chromium		6.6 B	6.6 B
Cobalt		NA	ND
Copper		224	224
Iron		NA	ND
Lead		24.4 S	24.4 S
Magnesium		NA	ND
Manganese		NA	ND
Mercury		ND	ND
Nickel		ND	ND
Potassium		NA	ND
Selenium		ND W	ND W
Silver		ND	ND
Sodium		NA	ND
Thallium		ND W	ND W
Vanadium		NA	ND
Zinc		193	193
Cyanide		ND	ND

µg/L - Micrograms per liter

B - Estimated value The value is less than the CRDL, but greater than the instrument detection limit.

NA - Not analyzed

ND - Not detected

S - Analysis performed using the method of standard additions.

W - Laboratory post-digestion spike for furnace AA analysis exceeds QC limits

**SAUGET Analytical Data  
Site M****SURFACE WATER SAMPLES  
Herbicides ( $\mu\text{g/L}$ )  
Collected by IEPA (3/11/94)**

recycled paper

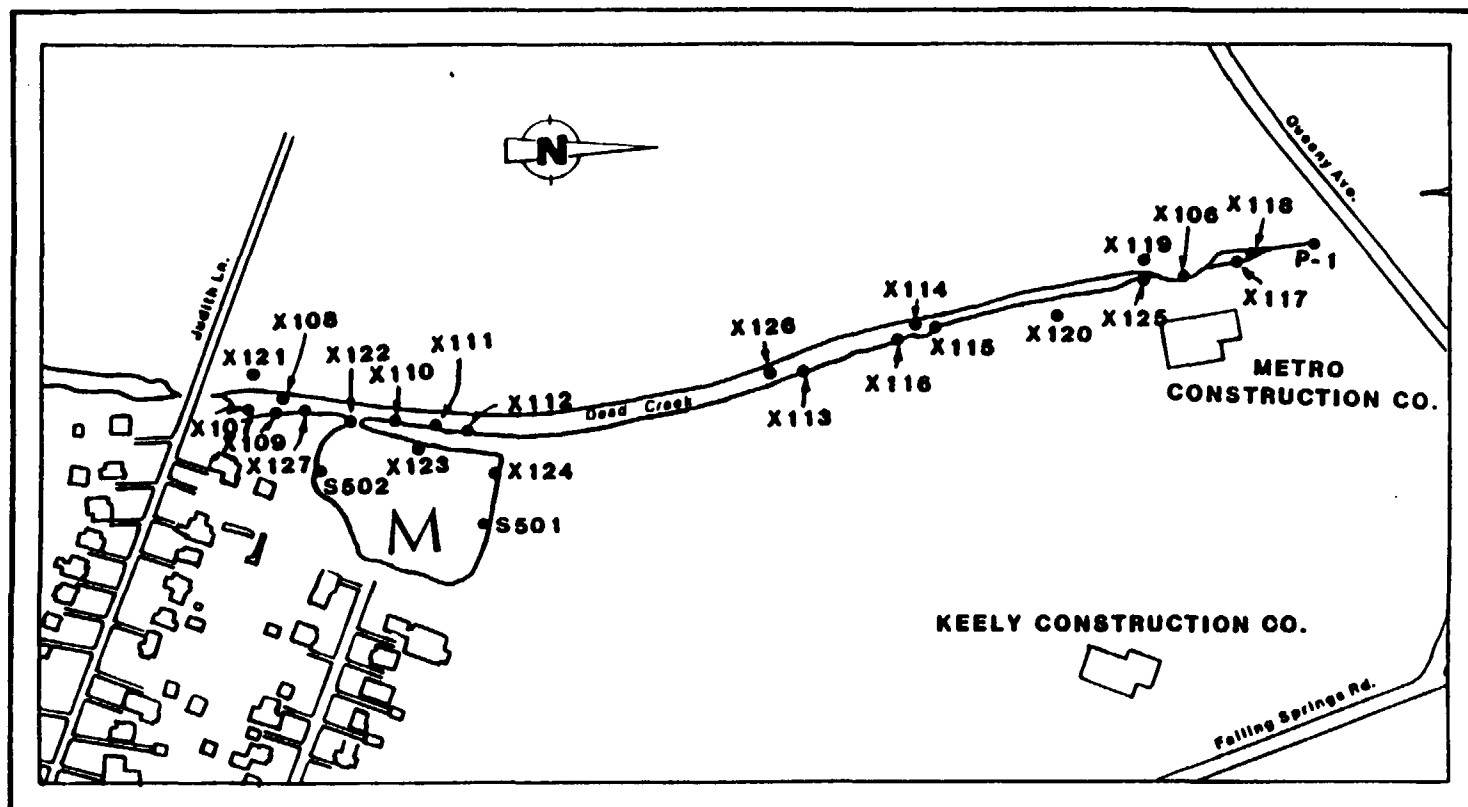
Herbicides	Sample Number	S501	S501DL	Maximum
	Date Collected	03/11/94	03/11/94	Concentration
				Detected
2,4-D		26 E	47	47
2,4,5-TP (Silvex)		3.4	ND	3.4

 $\mu\text{g/L}$  - Micrograms per liter

E - Estimated value    Concentration detected exceeds the calibrated range

ND - Not detected

ecology and environment



**LEGEND**

- X106 SEDIMENT SAMPLING LOCATION
- S502 SURFACE WATER SAMPLING LOCATION
- P-1 SUBSURFACE SOIL SAMPLING LOCATION



**FIGURE B-1**  
**IEPA SAMPLING LOCATIONS AT CREEK SECTOR B AND SITE M**

**SAUGET Analytical Data  
Site M**

**SOIL/SEDIMENT SAMPLES  
Metals (mg/kg)  
Collected by IEPA (09/25/80)**

recycled paper

Sample Number	6	Maximum
		Concentration
<b>Metals</b>		
Iron	13500	13500
Manganese	80	80
Calcium	4500	4500
Magnesium	3500	3500
Sodium	100	100
Potassium	1000	1000
Barium	350	350
Boron	25	25
Cadmium	4	4
Chromium	50	50
Copper	4500	4500
Lead	130	130
Nickel	590	590
Silver	6	6
Zinc	2600	2600
Beryllium	1	1
Cobalt	7	7
Strontium	27	27
Vanadium	19	19
Phosphorus	560	560

mg/kg - Milligrams per kilogram

recycling and environment

September 26, 1980

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

RECEIVED

SEP 30 1980

IEPA-DAPC-SPFLD

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

<u>Sample Number</u>	<u>Location</u>	<u>Depth of Sample</u>
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

September 26, 1960

- 6 Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond. 9 inches (composite)
- 7 Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek. 12 inches (composite)
- 8 Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek. 6 inches (composite)
- 9 Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.
- 10 Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.
- 11 Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge. 6 inches (composite)
- 12 Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried). 12 inches (composite)

cc: Southern Region  
Bill Child  
Jim Kelty ✓  
Attorney General

CS-B Data



**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SEDIMENT SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

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Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/5/86	Detected
VOC						BLANK	
Chloromethane	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	11000 B	2200 B	12000 B	13000 B	14000 B	15000 B	15000 B
Acetone	15000 B	820	4100 JB	10000 B	6100 B	6200 B	15000 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	21000 B	510	14000	14000	10000 B	11000 B	21000 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	87 J	ND	ND	ND	ND	87
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	220 J	ND	ND	ND	ND	220 J
2-Hexanone	ND	ND	ND	52000 B	ND	ND	52000 B
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	810	ND	ND	ND	ND	810
Chlorobenzene	ND	5200	ND	ND	ND	ND	5200
Ethylbenzene	ND	3600	ND	ND	ND	ND	3600
Styrene	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	990	ND	ND	ND	ND	990

µg/kg - Micrograms per kilogram  
 B - Compound detected in blank  
 J - Estimated value  
 NA - Not applicable  
 ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SEDIMENT SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>BNAs</b>						BLANK	
Phenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	220000	ND	130 J	ND	ND	220000
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	17000 J	ND	ND	ND	ND	17000 J
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	5400 J	ND	390 J	76 J	ND	5400 J
Naphthalene	400 J	9500 J	190 J	120 J	ND	ND	9500 J
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	8400 J	ND	ND	ND	ND	8400 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND

(µg/kg) - Micrograms per kilogram

J - Estimated value

NA - Not applicable

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SEDIMENT SAMPLES**

Base Neutrals/Acids (µg/kg)

Collected by Ecology & Environment, Inc. (11/86)

recycled paper

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Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>BNAs</b>						BLANK	
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	2600 J	ND	ND	ND	ND	2600 J
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	3900 J	ND	ND	ND	ND	3900 J
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	1900	210 J	ND	1900
Pentachlorophenol	ND	ND	ND	940 J	370 J	ND	940 J
Phenanthrene	ND	15000 J	ND	ND	ND	ND	15000 J
Anthracene	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	300 J	ND	280 J	ND	300 J
Fluoranthene	ND	11000 J	ND	ND	ND	ND	11000 J
Pyrene	ND	13000 J	1400 J	ND	91 J	ND	13000 J
Butyl Benzyl phthalate	ND	ND	830 J	ND	ND	ND	830 J
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	430 J	ND	ND	ND	430 J
bis(2-ethylhexyl)phthalate	9900 J	9500 J	5300	ND	95 J	ND	9900 J
Chrysene	ND		1200 J	ND	180 J	ND	1200 J
Di-n-octyl phthalate	ND	2600 J	940 J	ND	96 J	ND	2600 J
Benzo(b)fluoranthene	ND	3400 J	ND	2400	ND	ND	3400 J
Benzo(k)fluoranthene	720 J		1500 J	ND	410 J	ND	1500 J
Benzo (a)pyrene	1100 J	1800 J	490 J	310 J	95 J	ND	1800 J
Indeno(1,2,3-cd)pyrene	ND	ND	850 J	1400 J	200 J	ND	1400 J
Benzo(g,h,i)perylene	ND	ND	ND	390 J	ND	ND	390 J
Dibenzo(a,h)anthracene	ND	ND	1400 J	1800	210 J	ND	1800

(µg/kg) - Micrograms per kilogram

J - Estimated value

NA - Not applicable

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SEDIMENT SAMPLES**

**Total Metals (mg/kg)**

**Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
	Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>Total Metals</b>							BLANK	
<b>Aluminum</b>		4800	6380	5380	9750	12900	11800	12900
<b>Antimony</b>		ND	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>		14 R	20 R	16 R	21	13 R	5.6 R	21
<b>Barium</b>		410	1110	467	17300	3120	362	17300
<b>Beryllium</b>		ND	ND	ND	ND	ND	ND	ND
<b>Boron</b>		ND	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>		22	36	24	30	8.2	2.5	36
<b>Chromium</b>		62	163	79	118	113	15	163
<b>Cobalt</b>		6.6	9.2	6	11	6.9	6.8	11
<b>Copper</b>		8740 *	6700 *	8640	16300	2610	36 *	16300
<b>Iron</b>		16400	19500	16300	58200	21300	16600	58200
<b>Lead</b>		853	931	983	1460	330	47	1460
<b>Manganese</b>		197	153	218	82	70	412	412
<b>Mercury</b>		0.73	1.3	0.9	1.68	0.89		1.68
<b>Nickel</b>		56 R	502 R	82	1520 R	867 R	18 R	1520 R
<b>Selenium</b>		3.3	4.1	4	2	ND	ND	4.1
<b>Silver</b>		10	11	14	15	ND	ND	15
<b>Thallium</b>		ND	ND	ND	4	ND	ND	4
<b>Tin</b>		32	28	ND	16	ND	ND	32
<b>Vanadium</b>		23	27	24	48	25	27	48
<b>Zinc</b>		3310	6650	3410	11900	6610	197	11900
<b>Cyanide</b>		ND	3.8	ND	ND	ND	ND	3.8

mg/kg - Milligrams per kilogram

NA - Not applicable

ND - Not detected

R - Spike sample recovery not within control limits

\* - Duplicate analysis not within control limits

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SEDIMENT SAMPLES**

Pesticides/PCBs (µg/kg)

Collected by Ecology & Environment, Inc. (11/86)

recycled paper

Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
Pesticides/PCBs						BLANK	
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	480000 C	ND	ND	ND	ND	480000 C
Aroclor-1254	ND	ND	ND	141000 C	16000 C	ND	141000 C
Aroclor-1260	10300 J	66000 C	7700	54000 JC	5600 JC	ND	66000 C

µg/kg - Micrograms per kilogram

C - Result confirmed by GC/MS

J - Estimated value

NA - Not applicable

ND - Not detected

recycled paper

## SAUGET Analytical Data

Dead Creek - Sector B

## SURFACE WATER SAMPLES

Volatile Organic Compounds ( $\mu\text{g/L}$ )

Collected by Ecology &amp; Environment, Inc. (11/86)

recycled paper

Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	11/5/86	Concentration
VOC				BLANK	Detected
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	3 BJ	3 BJ	3 BJ	6 B	6 B
Acetone	9 BJ	12 B	11 B	12 B	12 B
Carbon Disulfide	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	27	27
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND

 $\mu\text{g/L}$  - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Sector B**

**SURFACE WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	Concentration
<b>BNAs</b>				<b>BLANK</b>	<b>Detected</b>
Phenol	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND
3-Nitroaniline	9 J	ND	ND	ND	9 J
Acenaphthene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
Dead Creek - Sector B

**SURFACE WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
Collected by Ecology & Environment, Inc. (11/86)

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Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	Concentration
BNAs				BLANK	Detected
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND
Di-n-butyl phthalate	18 B	15 B	16 B	15 B	18 B
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter  
B - Compound detected in blank  
J - Estimated value  
ND - Not detected



**SAUGET Analytical Data**  
**Dead Creek - Sector B**

**SURFACE WATER SAMPLES**  
**Total Metals (µg/L)**  
**Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	Concentration
<b>Total Metals</b>					<b>BLANK</b>	<b>Detected</b>
<b>Aluminum</b>		<b>1090</b>	<b>204</b>	<b>9080</b>	<b>ND</b>	<b>9080</b>
<b>Antimony</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Arsenic</b>		<b>ND</b>	<b>ND</b>	<b>31</b>	<b>ND</b>	<b>31</b>
<b>Barium</b>		<b>ND</b>	<b>ND</b>	<b>7130</b>	<b>ND</b>	<b>7130</b>
<b>Beryllium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Boron</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Cadmium</b>		<b>ND</b>	<b>ND</b>	<b>25</b>	<b>ND</b>	<b>25</b>
<b>Chromium</b>		<b>ND</b>	<b>ND</b>	<b>99</b>	<b>ND</b>	<b>99</b>
<b>Cobalt</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Copper</b>		<b>660</b>	<b>239</b>	<b>17900</b>	<b>ND</b>	<b>17900</b>
<b>Iron</b>		<b>1510</b>	<b>495</b>	<b>24500</b>	<b>255</b>	<b>24500</b>
<b>Lead</b>		<b>77</b>	<b>17</b>	<b>1300</b>	<b>ND</b>	<b>1300</b>
<b>Manganese</b>		<b>188</b>	<b>66</b>	<b>222</b>	<b>ND</b>	<b>222</b>
<b>Mercury</b>		<b>8.6</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>8.6</b>
<b>Nickel</b>		<b>ND</b>	<b>ND</b>	<b>1500</b>	<b>ND</b>	<b>1500</b>
<b>Selenium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Silver</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Thallium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Tin</b>		<b>ND</b>	<b>ND</b>	<b>60</b>	<b>ND</b>	<b>60</b>
<b>Vanadium</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>Zinc</b>		<b>404</b>	<b>302</b>	<b>10300</b>	<b>ND</b>	<b>10300</b>
<b>Cyanide</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>

µg/L - Micrograms per liter

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Sector B**

**SURFACE WATER SAMPLES**  
**Pesticides/PCBs (µg/L)**

Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	Concentration
Pesticides/PCBs					BLANK	Detected
Alpha-BHC		ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND
Aroclor-1260		3.6	34	44	ND	44

µg/L - Micrograms per liter

ND - Not detected

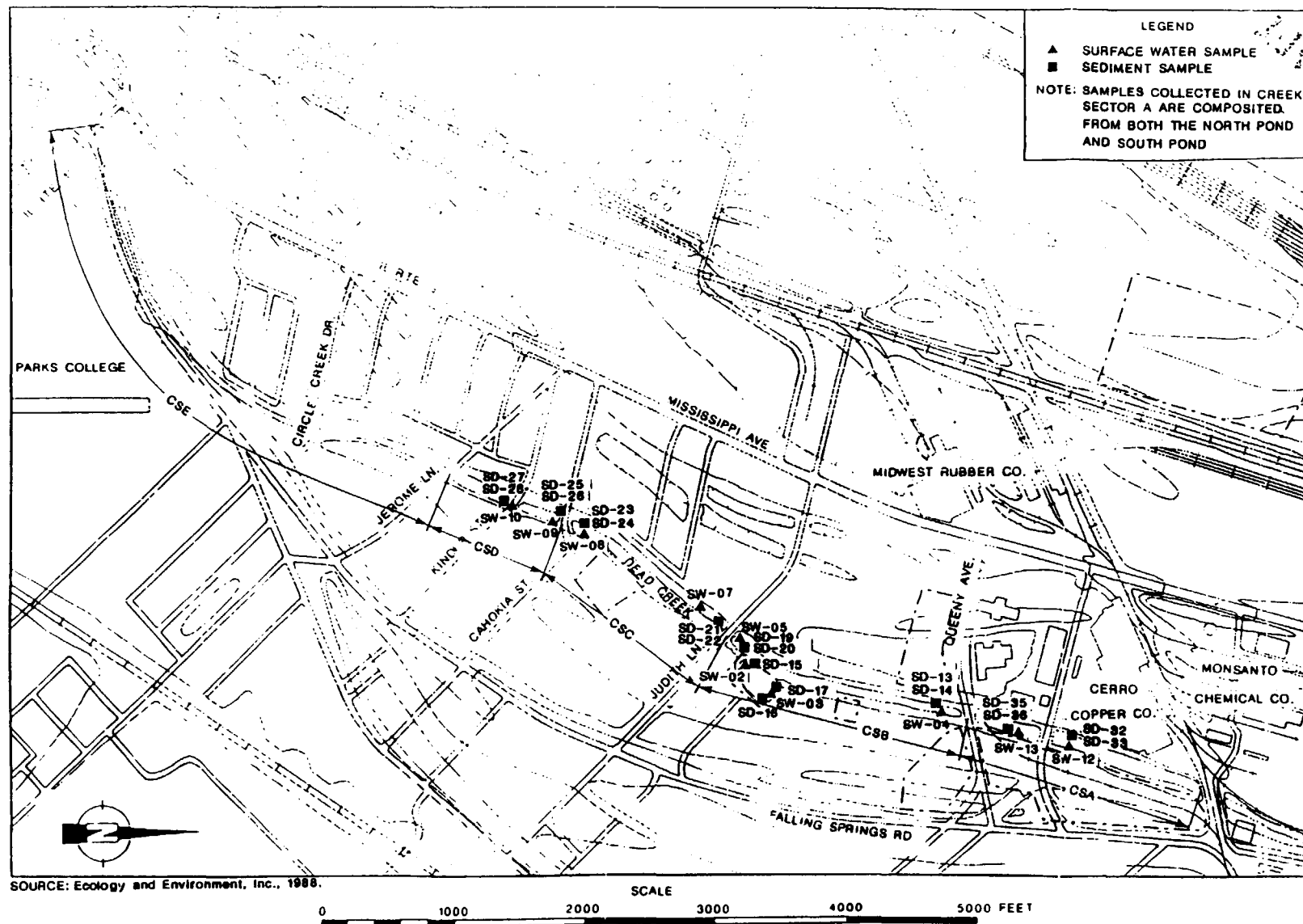


FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES**  
**Volatile Organic Compounds (mg/kg) dry weight**  
**Collected by Geraghty & Miller, Inc. (10/91)**

recycled paper

Sample Number	A-B1	C-B1	D-B1	E-B1	F-B1	G-B1	H-B1	I-B2	J-B2	BLANK	Maximum
Sample Depth (ft)	0-2	0-1.5	0-1.5	0-2	0-2	0-2	0-2	0-2	0-1.5	NA	Concentration
Date Collected	10/18/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/23/91	10/24/91	10/24/91	10/21/91	Detected
VOC										(µg/L)	
Methylene chloride	<0.028 J	<0.047 J	<0.094 J	<0.064	<0.061	<0.019	<0.050	<0.037	<0.016 J	10	10
Acetone	<0.056 J	<0.43 J	1.7 J	<0.89	<0.35	<0.14	<0.27	0.29	0.24 J	<10	1.7 J
Carbon disulfide	0.063 J	0.008 J	0.027 J	0.019 J	0.013 J	0.013 J	0.01 J	0.011 J	0.035 J	<5.0	0.063 J
2-Butanone	<0.056 J	<0.094 J	<0.23 J	<0.13	<0.18	<0.081	<0.20	0.2	<0.031 J	<10	ND
Benzene	<0.028 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND
Tetrachloroethene	<0.028 J	<0.047 J	<0.049 J	<0.064	0.03 J	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	0.03 J
Toluene	<0.028 J	<0.047 J	<0.049 J	0.035 J	0.025 J	<0.013	0.069	<0.030	<0.016 J	<5.0 J	0.069
Chlorobenzene	0.99 DJ	0.99 J	1.8 J	0.44	1.1	0.092	0.71	0.85	13 DJ	<5.0 J	13 DJ
Ethylbenzene	<0.028 J	<0.047 J	<0.049 J	<0.064	0.044 J	0.008 J	0.015 J	<0.030	<0.016 J	<5.0 J	0.044 J
Xylenes	<0.028 J	<0.047 J	0.04 J	<0.064	<0.061	<0.013	<0.050	<0.030	0.044 J	<5.0 J	0.044 J
Chloroform	<0.028 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND
1,1,1-Trichloroethane	<0.028 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND

mg/kg - milligrams per kilogram

J - Estimated value

D - Compound concentration determined at a secondary dilution factor

ecology and environment

## SAUGET Analytical Data

## Dead Creek - Segment B

## SOIL/SEDIMENT SAMPLES

Base Neutrals/Acids (mg/kg) dry weight

Collected by Geraghty &amp; Miller, Inc. (10/91)

Sample Number	A-B1	C-B1	D-B1	E-B1	F-B1	G-B1	H-B1	I-B2	J-B2	BLANK	Maximum
Sample Depth (ft)	0-2	0-1.5	0-1.5	0-2	0-2	0-2	0-2	0-2	0-1.5	NA	Concentration
Date Collected	10/18/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/23/91	10/24/91	10/24/91	10/21/91	Detected
BNAs	*								*	(µg/L)	
Phenol	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
2-Chlorophenol	<6.2	<12	0.160 J	0.120 J	0.110 J	<0.860	<0.660	<0.660	<1	<10	0.15 J
1,3-Dichlorobenzene	0.850 J/0.690 J	<12	0.360 J	0.760 J	1.1	<0.860	0.410 J	<0.660	2	<10	2
1,4-Dichlorobenzene	1.9 J/2.0 J	1.8 J	1.7	1.6	5.7	0.110 J	1.3	1.1	12	<10	12
1,2-Dichlorobenzene	0.850 J/0.960 J	<12	1.2	1.7	11	<0.860	2.5	<0.660	<1	<10	11
4-Methylphenol	<6.2	<12	<0.650	<0.850	<0.810	<0.860	0.120 J	<0.660	<1	<10	0.12 J
Isophorone	<6.2	<12	<0.650	<0.850	0.270 J	<0.860	<0.660	<0.660	<1	<10	0.27 J
2,4-Dimethylphenol	<6.2	<12	<0.650	<0.850	0.140 J	<0.860	0.087 J	<0.660	<1	<10	0.14 J
2,4-Dichlorophenol	<6.2	<12	<0.650	0.340 J	0.250 J	<0.860	0.096 J	<0.660	<1	<10	0.34 J
1,2,4-Trichlorobenzene	<6.2/3.4 J	3.8 J	3.4	4.4	12	<0.860	2.3	0.380 J	<1	<10	12
Naphthalene	<5.4/5.1 J	<12	0.350 J	0.300 J	0.500 J	<0.860	0.210 J	0.190 J	2.1	<10	5.1 J
4-Chloroaniline	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
2-Methylnaphthalene	1.8 J/1.7 J	<12	0.240 J	0.100 J	0.320 J	<0.860	0.140 J	<0.660	7	<10	7
2,4,6-Trichlorophenol	<6.2	<12	<0.650	0.350 J	<0.810	<0.860	<0.660	<0.660	<1	<10	0.35 J
2,4,5-Trichlorophenol	<31	<62	<3.300	0.096 J	<4.1	<4.3	<3.3	<3.3	<5.1	<50	0.096 J
Acenaphthylene	0.720 J/0.960 J	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Acenaphthene	0.530 J/0.440 J	<12	0.430 J	<0.850	0.480 J	<0.860	<0.660	0.098 J	2.6	<10	2.6
Dibenzofuran	1.2 J/1.3 J	<12	0.360 J	<0.850	0.280 J	<0.860	<0.660	0.070 J	2	<10	2
Diethylphthalate	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Fluorene	1.5 J/1.6 J	<12	0.950	0.170 J	0.880	<0.860	0.120 J	0.150 J	4.6	<10	4.6
N-Nitrosodiphenylamine	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Hexachlorobenzene	<6.2	<12	<0.650	0.110 J	<0.810	<0.860	<0.660	<0.660	<1	<10	0.11 J
Pentachlorophenol	<31	<62	1.5 J	1.6 J	1.6 J	<4.3	0.390 J	0.320 J	<5.1	<50	1.6 J
Phenanthrene	6.4/6.4	1.6 J	0.900	0.410 J	1.7	<0.860	0.350 J	0.320 J	2.9	<10	2.9
Anthracene	1.7 J/1.8 J	12	0.370 J	0.130 J	1.3	<0.860	<0.660	<0.660	2.7	<10	2.7
Di-n-butyl phthalate	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Fluoranthene	5.4 J/5.4 J	3.2 J	0.840	0.880	5.2	<0.860	0.430 J	0.580 J	4.7	<10	5.2
Pyrene	7.5/7.3	5.6 J	3.4	2.5	16 E	<0.860	1.2	1.9	17 E/12 D	<10	17 E
Butyl Benzyl phthalate	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Benzo(a)anthracene	3.7 J/3.6 J	1.6 J	0.950	0.480 J	5.4	<0.860	0.380 J	0.700	5	<10	5.4
bis(2-ethylhexyl)phthalate	12 B/10 B	7.1 J	1.3	1.2	0.820	0.086 J	0.910	<0.660	<1	<10	7.1 J
Chrysene	9.4/8.1	2.5 J	1.3	0.840 J	4.7	<0.860	0.510 J	1.2	7	<10	9.4
Benzo(b)fluoranthene	30/23	2.7 J	2.1	1.1	5.6	<0.860	0.770	1.6	6.1	<10	30
Benzo(k)fluoranthene	15/13	3.2 J	1.1	0.670 J	5.2	<0.860	0.780	0.980	5	<10	15
Benzo(a)pyrene	10/8.7	2.3 J	1.2	0.550 J	5.3	0.170 J	0.680	0.900	4.4	<10	10
Indeno(1,2,3-cd)pyrene	9/8.6	<12	0.730	0.270 J	2.1	<0.860	0.480 J	0.700	2.8	<10	9
Dibenzo(a,h)anthracene	3.9 J/3.3 J	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	3.9 J
Benzo(g,h,i)perylene	12/13	1.5 J	1.1	0.380 J	2.1	<0.860	0.330 J	0.880	3.2	<10	13

\* - Sample analyzed twice

J - Estimated concentration

B - Compound also detected in blank sample

E - Compound concentration is outside of instrument calibration limits

**SAUGET Analytical Data**  
Dead Creek - Segment B

**SOIL/SEDIMENT SAMPLES**  
Total Metals (mg/kg) dry weight  
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number	A-B1	A-B2	A-B3	C-B1	C-B2	C-B3	D-B1	D-B2	D-B3	E-B1
Sample Depth (ft)	0-2	2-4	5-6	0-1.5	1.5-3.5	3.5-5.5	0-1.5	2-4	4-6	0-2
Date Collected	10/18/91	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91
Total Metals										
Aluminum	5780	9310	9290	11800	21000	7010	6590	21500	11000	12300
Antimony	20.3 BJ	<14.2 J	<13.3 J	20.5 BJ	<14.2 J	<14.2 J	41.9 J	<13.7 J	<12.8 J	33.3 J
Barium	2970	240	230	4480	241	724	8640	294	262	8020
Cadmium	51.7 J	R	R	37.5 J	12.5 J	R	69.6 J	36.6 J	R	38.8 J
Calcium	12500	9650	16000	12500	5150	12000	20400	5870	17200	16100
Chromium	134	12.3	12	187	47.3	12.6	104	50.5	16.6	296
Cobalt	17.2 BJ	7.4 B	11 B	12.3 BJ	10.1 B	11.1 B	12.4 B	11 B	8.1 B	10.7 B
Copper	12100 J	<28.3	<29.9	10300 J	<66.1	321 J	25100 J	<46.8 J	<28.8	19400 J
Iron	39000	19500	16800	27300	18600	18700	48700	19100	16200	46600
Magnesium	3130	6860	7680	3660	4830	6540	3380	4830	7770	3440
Manganese	108 J	228 J	305 J	106 J	110 J	582 J	163 J	117 J	337 J	96.4 J
Nickel	1170 J	18.5 J	23.6 J	417 J	127 J	41.4 J	1260 J	106 J	18.8 J	666 J
Potassium	830 BJ	2940	1800	2030	3100	1480	1010 B	2910	2180	1260 B
Silver	11.7 J	<2.8 J	<2.7 J	12.1 J	<2.8 J	<2.8 J	21 J	<2.7 J	<2.6 J	19 J
Sodium	<225	<251	<269	<300	<254	<221	<362	<231	<211	<446
Vanadium	23.3	23.5	24.9	39.4	50	22.4	30.8	56.2	30.6	54.8
Zinc	13600	<106	1010	11700	3500	1090	26100	5280	<94.9	18500
Mercury	1.2	0.03	0.03	3.6	0.08	0.04	5	0.08	0.06	3.3
Lead	1520	14.6	12.5	1550	38.2	15.2	2660	53.4	10.8	1810
Selenium	6.2 J	R	R	5.8 J	R	R	9.45 J	R	R	6.2 J
Arsenic	100 J	4.5 J	12.2 J	198 J	13.2 J	4.2 J	63.1 J	15.1 J	6.7 J	107 J
Cyanide	17.4	<0.36	<0.33	<0.48	NA	NA	<0.49	NA	NA	0.78

MG/KG - Milligrams per kilogram

BJ - Concentration was less than the contract required detection limit, but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

## SAUGET Analytical Data

## Dead Creek - Segment B

## SOIL/SEDIMENT SAMPLES

## Total Metals (mg/kg) dry weight

Collected by Geraghty &amp; Miller, Inc. (10/91)

Sample Number	E-B3	E-B2	F-B1	F-B2	F-B3	G-B1	G-B2	G-B3	H-B1	H-B2
Sample Depth (ft)	2-4	4-6	0-2	2-4	4-6	0-2	2-4	4-6	0-2	2-4
Date Collected	10/21/91	10/21/91	10/22/91	10/22/91	10/22/91	10/22/91	10/23/91	10/23/91	10/23/91	10/23/91
Total Metals										
Aluminum	9910	16300	9890	20200	10600	6970	8300	13300	12100	9180
Antimony	<13.4 J	<14.2 J	42.6 J	<14.2 J	<12.1 J	44.5 J	<13.3 J	<12.9 J	20.7 BJ	<12.6 J
Barium	241	272	4110	312	269	8850	172	248	2040	204
Cadmium	3.6 J	1.5 J	243 J	7.7 J	R	112 J	R	11.8 J	80.7 J	5.8 J
Calcium	7430	18200	11100	6520	20600	9360	11300	3880	11200	6190
Chromium	20.7	21.4	107	49.2	15.5	104	13.3	32	63.1	84.5
Cobalt	17.2	8.2 B	29.9	11.6 B	7.3 B	24.9 B	17.6	24.4	12.2 B	8.9 B
Copper	<33	<29.0	12300 J	174 J	<26.7	17500 J	<16.9	<72.5	3560 J	<26.5
Iron	15800	24000	86400	21800	16200	62900	12600	12900	38100	9480
Magnesium	5100	7670	3730	5200	8290	2670	7050	3660	3670	4240
Manganese	101 J	702 J	557 J	132 J	493 J	132 J	207 J	72.3 J	141 J	82.2 J
Nickel	104 J	21.2 J	2020 J	181 J	18.7 J	1440 J	37.6 J	444 J	597 J	127 J
Potassium	1900 B	2980	1610 B	2970	2200	796 B	1680	1930	1900 B	1510 B
Silver	<2.7 J	<2.8 J	16.1 J	<2.8 J	<2.4 J	17.4 J	<2.7 J	<2.6 J	6 J	<2.6 J
Sodium	<177	<276	<355	<178	<186	<307	<137	<149	<203	<131
Vanadium	30.4	43.6	54.9	59.6	29.4	54.4	23.1	35.5	47.6	23.7
Zinc	2770	<84.2	42800	4100	<69.4	31000	<412	6340	13100	2180
Mercury	0.05	0.03	3.9	0.09	0.03	0.29	0.04	0.03	1.7	0.04
Lead	18.6	13.7	2310	34.3	12.5	1810	11.5	22.6	1340	15.4
Selenium	R	R	8.7 J	R	R	3.7 J	R	R	4.3 J	R
Arsenic	12.9 J	3.9 J	83.2 J	13.1 J	4.4 J	95.7 J	19.1 J	12.1 J	52.9 J	6.4 J
Cyanide	NA	NA	1.5	NA	NA	0.72	NA	NA	0.7	NA

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

## SAUGET Analytical Data

## Dead Creek - Segment B

## SOIL/SEDIMENT SAMPLES

Total Metals (mg/kg) dry weight

Collected by Geraghty &amp; Miller, Inc. (10/91)

recycled paper

Sample Number	H-B3	I-B2	I-B3	I-B1	J-B2	J-B3	J-B1	BLANK	BLANK	BLANK
Sample Depth (ft)	4-6	0-2	1.5-3	3-5	0-1.5	1.5-3	3-5	NA	NA	NA
Date Collected	10/23/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/21/91	10/21/91	10/21/91
Total Metals								(µg/L)	(µg/L)	(µg/L)
Aluminum	8450	15400 J	13300 J	9750 J	5640 J	13700 J	7280 J	<200	<200	<200
Antimony	<14.5 J	<19.0	<13.5	<14.0	44	<14.6	<13.9	<50.0	<50.0	<50.0
Barium	175	1890 J	294 J	189 J	9510 J	279 J	258 J	40.8 B	<10	<10
Cadmium	5.3 J	71.8 J	<19.3	<1.4	82.7 J	16.9 J	1.6 J	<5.0	<5.0	<5.0
Calcium	6310	7760	4860	14900	23600	3940	18000	844 B	462 B	497 B
Chromium	14.8	100 J	25.1 J	15 J	125 J	150 J	15.9 J	<10.0	<10.0	<10.0
Cobalt	12 B	17.2 B	6 B	8.6 B	26.8 B	7.9 B	8 B	<10.0	<10.0	<10.0
Copper	<19.3	4070	232 J	24.3	30100	276	90.5	68.9	<25.0	<25.0
Iron	11400	31700	17400	19900	54900	14000	15800	435	98.4 B	171
Magnesium	4960	4040	4120	7420	2860 B	3110	7420	168 B	<50.0	<50.0
Manganese	83.2 J	128 J	85.8	534 J	240	74	488	<10.0	<10.0	<10.0
Nickel	231 J	648 J	222 J	19.8 J	2670 J	377 J	34.3 J	<40.0	<40.0	<40.0
Potassium	1790	2420	2200	1940	<595	2070	1650	<1000	<1000	<1000
Silver	<2.9 J	4.2	<2.7	<2.7	50.4	<2.9	<2.7	<10.0	<10.0	<10.0
Sodium	<149	215 B	162 B	180 B	452 B	1464	187 B	8140	665 B	<500
Vanadium	27.5	44.1	35.2	25.6	58.9	34.7	21.6	<10.0	<10.0	<10.0
Zinc	2390	9950	3280	83.3	4500	4300	524	140	375	29.7
Mercury	0.03	0.25	0.09	0.07	0.14	0.1	0.1	<0.20	<0.20	<0.20
Lead	11.3	1360	44.5	14.1	1820	76.8	26.2	5.5	<3.0	<5.0
Selenium	R	3.9 J	<2.7 J	<1.4 J	<6.0 J	<2.9 J	<2.7 J	<5.0 J	<5.0 J	<10
Arsenic	15.5 J	89.5 J	7.3 J	11.1 J	70.5 J	8.4	4.4	<10.0	<10.0	<10
Cyanide	NA	0.53 J	NA	NA	<0.79	NA	NA	NA	NA	NA

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit, but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

File Name: DCSB.XLS - Sheet: Soil Total Metals



**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Geraghty & Miller, Inc. (10/91)**

	Sample Number	Maximum
	Sample Depth (ft)	Concentration
	Date Collected	Detected
Total Metals		
Aluminum		21500
Antimony		44.5 J
Barium		9510
Cadmium		243 J
Calcium		23600
Chromium		296
Cobalt		29.9
Copper		30100
Iron		86400
Magnesium		8920
Manganese		702 J
Nickel		2670 J
Potassium		3100
Silver		50.4
Sodium		1464
Vanadium		59.6
Zinc		42800
Mercury		5
Lead		2660
Selenium		9.45 J
Arsenic		198 J
Cyanide		17.4

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit, but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES**  
**Pesticides/PCBs (mg/kg) dry weight**  
**Collected by Geraghty & Miller, Inc. (10/91)**

Sample Number	A-B1	A-B2	A-B3	C-B1	C-B2	C-B3	D-B1	D-B2	D-B3	E-B1
Sample Depth (ft)	0-2	2-4	5-6	0-1.5	1.5-3.5	3.5-5.5	0-1.5	2-4	4-6	0-2
Date Collected	10/18/91	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91
<b>Pesticides/PCBs</b>										
Aroclor-1248	<150 J	0.250 J	<0.110 J	440 J	0.420	<0.120	85 J	<0.120	<0.110	68 J
Aroclor-1254	180 J	0.126 J	0.130 J	<120 J	<0.250	0.220 J	53 J	<0.240	<0.210	46 J
Aroclor-1260	130 J	<0.230 J	<0.210 J	<120 J	<0.250	<0.240	<63 J	<0.240	<0.210	<82 J
<b>Total PCBs</b>	<b>310</b>	<b>0.376</b>	<b>0.130</b>	<b>440</b>	<b>0.420</b>	<b>0.220</b>	<b>138</b>	<b>0</b>	<b>0</b>	<b>114</b>

Sample Number	E-B3	E-B2	F-B1	F-B2	F-B3	G-B1	G-B2	G-B3	H-B1	H-B2
Sample Depth (ft)	2-4	4-6	0-2	2-4	4-6	0-2	2-4	4-6	0-2	2-4
Date Collected	10/21/91	10/21/91	10/22/91	10/22/91	10/22/91	10/22/91	10/23/91	10/23/91	10/23/91	10/23/91
<b>Pesticides/PCBs</b>										
Aroclor-1248	<0.110	<0.110	92 J	<0.120	<0.110	20 J	<0.110	0.120	54 J	0.120
Aroclor-1254	<0.230	<0.230	55 J	<0.250	<0.210	30 J	0.400	0.910	13 J	<0.220
Aroclor-1260	<0.230	<0.230	<78 J	<0.250	<0.210	42 J	<0.230	0.250	<32 J	<0.220
<b>Total PCBs</b>	<b>0</b>	<b>0</b>	<b>147</b>	<b>0</b>	<b>0</b>	<b>92</b>	<b>0.400</b>	<b>1.280</b>	<b>67</b>	<b>0.120</b>

Sample Number	H-B3	I-B2	I-B3	I-B1	J-B2	J-B3	J-B1	BLANK	Maximum
Sample Depth (ft)	4-6	0-2	1.5-3	3-5	0-1.5	1.5-3	3-5	NA	Concentration
Date Collected	10/23/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/21/91	Detected
<b>Pesticides/PCBs</b>								(UG/L)	
Aroclor-1248	<0.120	12 J	0.330 J	0.390	93 J	0.230	<0.120	<0.50 J	440 J
Aroclor-1254	<0.240	18 J	0.680 X	0.230 X	110 J	0.350 X	<0.230	<1.0 J	180 J
Aroclor-1260	<0.240	23 J	0.210 J	0.210 J	98 J	0.200 J	<0.230	<1.0 J	130 J
<b>Total PCBs</b>	<b>0</b>	<b>53</b>	<b>0.830</b>	<b>0.830</b>	<b>301</b>	<b>0.780</b>	<b>0</b>	<b>--</b>	<b>--</b>

mg/kg - Milligrams per kilogram

J - Estimated value

X - Due to the presence of Aroclor 1248, 1254, and 1260, the quantitation is based on one peak only

## SAUGET Analytical Data

## Dead Creek - Segment B

## SOIL/SEDIMENT SAMPLES

Volatile Organic Compounds (mg/kg) dry weight

Collected by Geraghty &amp; Miller, Inc. (10/91)

Sample Number	A-B1	B-B1	C-B1	D-B1	E-B1	F-B1	G-B1	H-B1	I-B2	J-B2	BLANK	Maximum
Sample Depth (ft)	0-2	0-2	0-1.5	0-1.5	0-2	0-2	0-2	0-2	0-2	0-1.5	NA	Concentration
Date Collected	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/23/91	10/24/91	10/24/91	10/21/91	Detected
VOC											(µg/L)	
Methylene chloride	<0.028 J	<1.3 J	<0.047 J	<0.094 J	<0.064	<0.061	<0.019	<0.050	<0.037	<0.016 J	10	10
Acetone	<0.056 J	<1.8 J	<0.43 J	1.7 J	<0.89	<0.35	<0.14	<0.27	0.29	0.24 J	<10	1.7 J
Carbon disulfide	0.063 J	<0.92 J	0.008 J	0.027 J	0.019 J	0.013 J	0.013 J	0.01 J	0.011 J	0.035 J	<5.0	0.063 J
2-Butanone	<0.056 J	<3.7 J	<0.094 J	<0.23 J	<0.13	<0.18	<0.081	<0.20	0.2	<0.031 J	<10	0.2
Benzene	<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND
Tetrachloroethene	<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	0.03 J	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	0.03 J
Toluene	<0.028 J	5.3 J	<0.047 J	<0.049 J	0.035 J	0.025 J	<0.013	0.069	<0.030	<0.016 J	<5.0 J	5.3 J
Chlorobenzene	0.99 DJ	2 J	0.99 J	1.8 J	0.44	1.1	0.092	0.71	0.65	13 DJ	<5.0 J	13 DJ
Ethylbenzene	<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	0.044 J	0.008 J	0.015 J	<0.030	<0.016 J	<5.0 J	0.044 J
Xylenes	<0.028 J	0.36 J	<0.047 J	0.04 J	<0.064	<0.061	<0.013	<0.050	<0.030	0.044 J	<5.0 J	0.36 J
Chloroform	<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND
1,1,1-Trichloroethane	<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND

mg/kg - milligrams per kilogram

J - Estimated value

D - Compound concentration determined at a secondary dilution factor

## SAUGET Analytical Data

Dead Creek - Segment B

## SOIL/SEDIMENT SAMPLES

Base Neutrals/Acids (mg/kg) dry weight

Collected by Geraghty &amp; Miller, Inc. (10/91)

recycled paper

printed on recycled paper

Sample Number	A-B1	B-B1	C-B1	D-B1	E-B1	F-B1	G-B1	H-B1	I-B2	J-B2	BLANK	Maximum
Sample Depth (ft)	0-2	0-2	0-15	0-15	0-2	0-2	0-2	0-2	0-2	0-15	NA	Concentration
Date Collected	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/23/91	10/24/91	10/24/91	10/21/91	Detected
BNAs											(µg/L)	
Phenol	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
2-Chlorophenol	<6.2	0.460 J/<0.490	<12	0.150 J	0.120 J	0.110 J	<0.860	<0.660	<0.660	<1	<10	0.46 J
1,3-Dichlorobenzene	0.850 J/0.890 J	0.180 J/0.180 J	<12	0.350 J	0.780 J	1.1	<0.860	0.410 J	<0.660	2	<10	2
1,4-Dichlorobenzene	1.9 J/2.0 J	2.3/2.0	1.8 J	1.7	1.6	5.7	0.110 J	1.3	1.1	12	<10	12
1,2-Dichlorobenzene	0.850 J/0.960 J	<0.490	<12	1.2	1.7	11	<0.860	2.5	<0.660	<1	<10	11
4-Methylphenol	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	0.120 J	<0.660	<1	<10	0.12 J
Isophorone	<6.2	<0.490	<12	<0.650	<0.850	0.270 J	<0.860	<0.660	<0.660	<1	<10	0.27 J
2,4-Dimethylphenol	<6.2	<0.490	<12	<0.650	<0.850	0.140 J	<0.860	0.087 J	<0.660	<1	<10	0.14 J
2,4-Dichlorophenol	<6.2	0.840/0.880	<12	<0.650	0.340 J	0.250 J	<0.860	0.096 J	<0.660	<1	<10	0.88 J
1,2,4-Trichlorobenzene	<6.2/3.4 J	1.6/1.6	3.8 J	3.4	4.4	12	<0.860	2.3	0.380 J	<1	<10	12
Naphthalene	<5.4/5.1 J	1.1/1.0	<12	0.350 J	0.300 J	0.500 J	<0.860	0.210 J	0.190 J	2.1	<10	5.1 J
4-Chloroaniline	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
2-Methylnaphthalene	1.6 J/1.7 J	<0.490	<12	0.240 J	0.100 J	0.320 J	<0.860	0.140 J	<0.660	7	<10	7
2,4,6-Trichlorophenol	<6.2	1.3/1.4	<12	<0.650	0.350 J	<0.810	<0.860	<0.660	<0.660	<1	<10	1.4
2,4,5-Trichlorophenol	<31	<2.5	<62	<3.300	0.098 J	<4.1	<4.3	<3.3	<3.3	<5.1	<50	0.098 J
Acenaphthylene	0.720 J/0.960 J	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Acenaphthene	0.530 J/0.440 J	0.230 J/0.270 J	<12	0.430 J	<0.850	0.480 J	<0.860	<0.660	0.098 J	2.6	<10	2.6
Dibenzofuran	1.2 J/1.3 J	0.160 J/0.170 J	<12	0.350 J	<0.850	0.280 J	<0.860	<0.660	0.070 J	2	<10	2
Diethylphthalate	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Fluorene	1.5 J/1.6 J	0.340 J/0.310 J	<12	0.950	0.170 J	0.880	<0.860	0.120 J	0.150 J	4.8	<10	4.6
N-Nitrosodiphenylamine	<6.2	0.520/0.760	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	0.76
Hexachlorobenzene	<6.2	<0.490	<12	<0.650	0.110 J	<0.810	<0.860	<0.660	<0.660	<1	<10	0.11 J
Pentachlorophenol	<31	1.4 J/2.9	<62	1.5 J	1.6 J	1.6 J	<4.3	0.390 J	0.320 J	<5.1	<50	2.9
Phenanthrene	6.4/6.4	0.870/<0.490	1.6 J	0.900	0.410 J	1.7	<0.860	0.350 J	0.320 J	2.9	<10	2.9
Anthracene	1.7 J/1.8 J	0.430 J/<0.490	<12	0.370 J	0.130 J	1.3	<0.860	<0.660	<0.660	2.7	<10	2.7
Di-n-butyl phthalate	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Fluoranthene	5.4 J/5.4 J	1.8/<0.490	3.2 J	0.840	0.880	5.2	<0.860	0.430 J	0.580 J	4.7	<10	5.2
Pyrene	7.5/7.3	6.6/4.3	5.6 J	3.4	2.5	18 E	<0.860	1.2	1.9	17 E/12 D	<10	17 E
Butyl Benzyl phthalate	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Benzo(a)anthracene	3.7 J/3.6 J	1.6/1.8	1.6 J	0.950	0.480 J	5.4	<0.860	0.360 J	0.700	5	<10	5.4
bis(2-ethylhexyl)phthalate	12 B/10 B	2.4 B/1.9 B	7.1 J	1.3	1.2	0.820	0.088 J	0.910	<0.660	<1	<10	7.1 J
Chrysene	9.4/8.1	1.7/1.2	2.5 J	1.3	0.840 J	4.7	<0.860	0.510 J	1.2	7	<10	9.4
Benzo(b)fluoranthene	30/23	2.7/4.0	2.7 J	2.1	1.1	5.6	<0.860	0.770	1.6	6.1	<10	30
Benzo(k)fluoranthene	15/13	1.9/<0.490	3.2 J	1.1	0.670 J	5.2	<0.860	0.780	0.980	5	<10	15
Benzo(a)pyrene	10/8.7	1.9/1.9	2.3 J	1.2	0.550 J	5.3	0.170 J	0.680	0.900	4.4	<10	10
Indeno(1,2,3-cd)pyrene	9/8.6	0.7/1.0	<12	0.730	0.270 J	2.1	<0.860	0.460 J	0.700	2.8	<10	9
Dibenzo(a,h)anthracene	3.9 J/3.3 J	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	3.9 J
Benzo(g,h,i)perylene	12/13	0.650/1.0	1.5 J	1.1	0.380 J	2.1	<0.860	0.330 J	0.880	3.2	<10	13

\* - Sample analyzed twice

J - Estimated concentration

B - Compound also detected in blank sample

E - Compound concentration is outside of instrument calibration limits

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES**  
**Total Metals (mg/kg) dry weight**  
**Collected by Geraghty & Miller, Inc. (10/91)**

Sample Number	A-B1	A-B2	A-B3	B-B1	B-B2	B-B3	C-B1	C-B2	C-B3	D-B1
Sample Depth (ft)	0-2	2-4	5-6	0-2	4-6	2-4	0-1.5	1.5-3.5	3.5-5.5	0-1.5
Date Collected	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/21/91
<b>Total Metals</b>										
<b>Aluminum</b>	5780	9310	9290	49200	7170	7460	11800	21000	7010	6690
<b>Antimony</b>	20.3 BJ	<14.2 J	<13.3 J	<14.6 J	<13.5 J	<12.6 J	20.6 BJ	<14.2 J	<14.2 J	41.9 J
<b>Barium</b>	2970	240	230	1980	202	274	4480	241	724	8640
<b>Cadmium</b>	51.7 J	R	R	22 J	R	R	37.5 J	12.5 J	R	69.6 J
<b>Calcium</b>	12500	9660	16000	17300	16100	18500	12500	5150	12000	20400
<b>Chromium</b>	134	12.3	12	71.1	10.4	10.9	187	47.3	12.6	104
<b>Cobalt</b>	17.2 BJ	7.4 B	11 B	10.3 B	8.7 B	10.5 B	12.3 BJ	10.1 B	11.1 B	12.4 B
<b>Copper</b>	12100 J	<28.3	<29.9	3160 J	<21.8	23.6 J	10300 J	<66.1	321 J	25100 J
<b>Iron</b>	39000	19500	15800	24200	17600	14400	27300	18600	18700	48700
<b>Magnesium</b>	3130	6860	7680	3030	7160	7460	3660	4930	6540	3380
<b>Manganese</b>	108 J	226 J	306 J	119 J	177 J	252 J	106 J	110 J	582 J	153 J
<b>Nickel</b>	1170 J	18.6 J	23.6 J	292 J	19.3 J	22.6 J	417 J	127 J	41.4 J	1260 J
<b>Potassium</b>	830 BJ	2940	1800	1070 B	1470	1700	2030	3100	1460	1010 B
<b>Silver</b>	11.7 J	<2.8 J	<2.7 J	5.1 J	<2.7 J	<2.5 J	12.1 J	<2.8 J	<2.8 J	21 J
<b>Sodium</b>	<225	<251	<269	<259	<281	<304	<300	<254	<221	<362
<b>Vanadium</b>	23.3	23.5	24.9	16.4	20.2	22.2	39.4	50	22.4	30.8
<b>Zinc</b>	13600	<106	1010	5140	<65.0	<133	11700	3500	1090	26100
<b>Mercury</b>	1.2	0.03	0.03	1.1	0.03	0.02	3.6	0.08	0.04	5
<b>Lead</b>	1520	14.6	12.5	696	10	11.7	1550	38.2	15.2	2660
<b>Selenium</b>	6.2 J	R	R	4.4 J	R	R	5.8 J	R	R	9.45 J
<b>Arsenic</b>	100 J	4.5 J	12.2 J	72.2 J	11.1 J	2.5 J	198 J	13.2 J	4.2 J	63.1 J
<b>Cyanide</b>	17.4	<0.36	<0.33	2.5	<0.34	<0.31	<0.48	NA	NA	<0.49

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

## SAUGET Analytical Data

## Dead Creek - Segment B

## SOIL/SEDIMENT SAMPLES

Total Metals (mg/kg) dry weight

Collected by Geraghty &amp; Miller, Inc. (10/91)

recycled paper

Sample Number	D-B2	D-B3	E-B1	E-B3	E-B2	F-B1	F-B2	F-B3	G-B1	G-B2
Sample Depth (ft)	2-4	4-6	0-2	2-4	4-6	0-2	2-4	4-6	0-2	2-4
Date Collected	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/22/91	10/22/91	10/23/91
<b>Total Metals</b>										
Aluminum	21500	11000	12300	9910	16300	9890	20200	10600	6970	8300
Antimony	<13.7 J	<12.8 J	33.3 J	<13.4 J	<14.2 J	42.6 J	<14.2 J	<12.1 J	44.5 J	<13.3 J
Barium	294	252	8020	241	272	4110	312	259	8850	172
Cadmium	36.6 J	R	38.8 J	3.6 J	1.5 J	243 J	7.7 J	R	112 J	R
Calcium	5870	17200	16100	7430	18200	11100	6520	20600	9360	11300
Chromium	50.5	16.6	296	20.7	21.4	107	49.2	15.5	104	13.3
Cobalt	11 B	8.1 B	10.7 B	17.2	8.2 B	29.9	11.6 B	7.3 B	24.9 B	17.5
Copper	<46.8 J	<28.8	19400 J	<33	<29.0	12300 J	174 J	<26.7	17500 J	<16.9
Iron	19100	16200	46500	15800	24000	86400	21800	16200	62900	12600
Magnesium	4830	7770	3440	5100	7670	3730	5200	8290	2570	7050
Manganese	117 J	337 J	96.4 J	101 J	702 J	557 J	132 J	493 J	132 J	207 J
Nickel	105 J	18.8 J	686 J	104 J	21.2 J	2020 J	181 J	18.7 J	1440 J	37.6 J
Potassium	2910	2180	1260 B	1900 B	2980	1610 B	2970	2200	796 B	1680
Silver	<2.7 J	<2.6 J	19 J	<2.7 J	<2.8 J	16.1 J	<2.8 J	<2.4 J	17.4 J	<2.7 J
Sodium	<231	<211	<446	<177	<276	<355	<178	<186	<307	<137
Vanadium	58.2	30.6	54.8	30.4	43.6	54.9	59.6	29.4	54.4	23.1
Zinc	5280	<94.9	18500	2770	<84.2	42800	4100	<69.4	31000	<412
Mercury	0.08	0.06	3.3	0.05	0.03	3.9	0.09	0.03	0.29	0.04
Lead	53.4	10.8	1810	18.6	13.7	2310	34.3	12.5	1810	11.5
Selenium	R	R	6.2 J	R	R	8.7 J	R	R	3.7 J	R
Arsenic	15.1 J	6.7 J	107 J	12.9 J	3.9 J	83.2 J	13.1 J	4.4 J	95.7 J	19.1 J
Cyanide	NA	NA	0.78	NA	NA	1.5	NA	NA	0.72	NA

MG/KG - Milligrams per kilogram

J - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

B - Estimated value

- Unusable data

NA - Not analyzed

environment

## SAUGET Analytical Data

## Dead Creek - Segment B

## SOIL/SEDIMENT SAMPLES

Total Metals (mg/kg) dry weight

Collected by Geraghty &amp; Miller, Inc. (10/91)

Sample Number	G-B3	H-B1	H-B2	H-B3	I-B2	I-B3	I-B1	J-B2	J-B3	J-B1
Sample Depth (ft)	4-6	0-2	2-4	4-6	0-2	1.5-3	3-5	0-1.5	1.5-3	3-5
Date Collected	10/23/91	10/23/91	10/23/91	10/23/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91
Total Metals										
Aluminum	13300	12100	9180	8450	15400 J	13300 J	9750 J	5640 J	13700 J	7280 J
Antimony	<12.9 J	20.7 B J	<12.8 J	<14.5 J	<19.0	<13.5	<14.0	44	<14.6	<13.9
Barium	248	2040	204	175	1890 J	294 J	189 J	9510 J	279 J	258 J
Cadmium	11.8 J	80.7 J	5.8 J	5.3 J	71.8 J	<19.3	<1.4	82.7 J	16.9 J	1.6 J
Calcium	3880	11200	6190	6310	7760	4860	14900	23600	3940	18000
Chromium	32	63.1	84.5	14.8	100 J	25.1 J	15 J	125 J	150 J	15.9 J
Cobalt	24.4	12.2 B	8.9 B	12 B	17.2 B	6 B	8.6 B	26.8 B	7.9 B	8 B
Copper	<72.5	3560 J	<26.5	<19.3	4070	232 J	24.3	30100	276	90.5
Iron	12900	36100	9480	11400	31700	17400	19900	54900	14000	15800
Magnesium	3660	3670	4240	4960	4040	4120	7420	2860 B	3110	7420
Manganese	72.3 J	141 J	82.2 J	83.2 J	128 J	85.8	534 J	240	74	488
Nickel	444 J	597 J	127 J	231 J	548 J	222 J	19.8 J	2670 J	377 J	34.3 J
Potassium	1930	1900 B	1510 B	1790	2420	2200	1940	<595	2070	1650
Silver	<2.6 J	6 J	<2.6 J	<2.9 J	4.2	<2.7	<2.7	50.4	<2.9	<2.7
Sodium	<149	<203	<131	<149	215 B	162 B	180 B	462 B	1464	187 B
Vanadium	35.5	47.6	23.7	27.5	44.1	35.2	25.6	58.9	34.7	21.6
Zinc	6340	13100	2180	2390	9950	3280	83.3	4500	4300	524
Mercury	0.03	1.7	0.04	0.03	0.25	0.09	0.07	0.14	0.1	0.1
Lead	22.6	1340	15.4	11.3	1360	44.5	14.1	1820	76.8	26.2
Selenium	R	4.3 J	R	R	3.9 J	<2.7 J	<1.4 J	<6.0 J	<2.9 J	<2.7 J
Arsenic	12.1 J	52.9 J	6.4 J	15.5 J	89.5 J	7.3 J	11.1 J	70.5 J	8.4	4.4
Cyanide	NA	0.7	NA	NA	0.53 J	NA	NA	<0.79	NA	NA

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit, but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLE RINSATE BLANKS**  
**Total Metals**  
**Collected by Geraghty & Miller, Inc. (10/91)**

recycled paper

Sample Number	BLANK	BLANK	BLANK	Maximum
Sample Depth (ft)	NA	NA	NA	Concentration
Date Collected	10/21/91	10/21/91	10/21/91	Detected
Total Metals	(µg/L)	(µg/L)	(µg/L)	
Aluminum	<200	<200	<200	49200
Antimony	<50.0	<50.0	<50.0	44.6 J
Barium	40.8 B	<10	<10	9510
Cadmium	<5.0	<5.0	<5.0	243 J
Calcium	844 B	462 B	497 B	23600
Chromium	<10.0	<10.0	<10.0	296
Cobalt	<10.0	<10.0	<10.0	29.9
Copper	68.9	<25.0	<25.0	30100
Iron	435	98.4 B	171	86400
Magnesium	168 B	<50.0	<50.0	8920
Manganese	<10.0	<10.0	<10.0	702 J
Nickel	<40.0	<40.0	<40.0	2670 J
Potassium	<1000	<1000	<1000	3100
Silver	<10.0	<10.0	<10.0	50.4
Sodium	8140	665 B	<500	1464
Vanadium	<10.0	<10.0	<10.0	59.6
Zinc	140	375	29.7	42800
Mercury	<0.20	<0.20	<0.20	5
Lead	5.5	<3.0	<5.0	2660
Selenium	<5.0 J	<5.0 J	<10	9.45 J
Arsenic	<10.0	<10.0	<10	198 J
Cyanide	NA	NA	NA	17.4

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

recycling and environment



## SAUGET Analytical Data

## Dead Creek - Segment B

## SOIL/SEDIMENT SAMPLES

Pesticides/PCBs (mg/kg) dry weight

Collected by Geraghty &amp; Miller, Inc. (10/91)

Sample Number	A-B1	A-B2	A-B3	B-B1	B-B3	B-B2	C-B1	C-B2	C-B3	D-B1
Sample Depth (ft)	0-2	2-4	5-6	0-2	2-4	4-6	0-1.5	1.5-3.5	3.5-5.5	0-1.5
Date Collected	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/21/91
Pesticides/PCBs										
Aroclor-1248	<150 J	0.250 J	<0.110 J	250 J	0.140 J	<0.110 J	440 J	0.420	<0.120	85 J
Aroclor-1254	180 J	0.126 J	0.130 J	<230 J	<0.200 J	<0.220 J	<120 J	<0.250	0.220 J	53 J
Aroclor-1260	130 J	<0.230 J	<0.210 J	<230 J	<0.200 J	<0.220 J	<120 J	<0.250	<0.240	<63 J
Total PCBs	310	0.376	0.130	250	0.140	0	440	0.420	0.220	138

Sample Number	D-B2	D-B3	E-B1	E-B3	E-B2	F-B1	F-B2	F-B3	G-B1	G-B2
Sample Depth (ft)	2-4	4-6	0-2	2-4	4-6	0-2	2-4	4-6	0-2	2-4
Date Collected	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/22/91	10/22/91	10/23/91
Pesticides/PCBs										
Aroclor-1248	<0.120	<0.110	68 J	<0.110	<0.110	92 J	<0.120	<0.110	20 J	<0.110
Aroclor-1254	<0.240	<0.210	46 J	<0.230	<0.230	55 J	<0.250	<0.210	30 J	0.400
Aroclor-1260	<0.240	<0.210	<82 J	<0.230	<0.230	<78 J	<0.250	<0.210	42 J	<0.230
Total PCBs	0	0	114	0	0	147	0	0	92	0.400

Sample Number	G-B3	H-B1	H-B2	H-B3	I-B2	I-B3	I-B1	J-B2	J-B3	J-B1
Sample Depth (ft)	4-6	0-2	2-4	4-6	0-2	1.5-3	3-5	0-1.5	1.5-3	3-5
Date Collected	10/23/91	10/23/91	10/23/91	10/23/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91
Pesticides/PCBs										
Aroclor-1248	0.120	54 J	0.120	<0.120	12 J	0.330 J	0.390	93 J	0.230	<0.120
Aroclor-1254	0.910	13 J	<0.220	<0.240	18 J	0.680 X	0.230 X	110 J	0.350 X	<0.230
Aroclor-1260	0.250	<32 J	<0.220	<0.240	23 J	0.210 J	0.210 J	98 J	0.200 J	<0.230
Total PCBs	1.280	67	0.120	0	53	0.830	0.830	301	0.780	0

Sample Number	BLANK									Maximum
Sample Depth (ft)	NA									Concentration
Date Collected	10/21/91									Detected
Pesticides/PCBs	(UG/L)									
Aroclor-1248	<0.50 J									440 J
Aroclor-1254	<1.0 J									180 J
Aroclor-1260	<1.0 J									130 J

MG/KG - Milligrams per kilogram

J - Estimated value

X - Due to the presence of Aroclor 1248, 1254, and 1260, the quantitation is based on one peak only.

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SEDIMENT SAMPLES**  
**RCRA Hazardous Characteristic Parameters**  
**Collected by Geraghty & Miller, Inc. (10/91)**

Sample Number		AB	CDE	FGH	IJ					Maximum
Sample Depth (ft)	Regulatory	0-6	0-6	0-6	0-5					Concentration
Date Collected	Limit	10/18/91	10/18/91	10/23/91	10/24/91					Detected
Ignitability - Flash point	<140 deg. F	non-ignitable	non-ignitable	non-ignitable	non-ignitable					
Corrosivity (pH units)	< 2 or > 12.5	6.3	6.6	6.8	6.5					6.8
Reactivity (mg/kg)dry wt.										ND
Sulfide	500	16	<3.8	<3.8	<4.5					16
Cyanide	250	<1.5	<1.5	<1.5	<1.8					ND
VOLATILES (mg/L)										
Benzene	0.5	<0.020	<0.020	<0.020	<0.020					ND
Carbon tetrachloride	0.5	<0.020	<0.020	<0.020	0.035					0.035
Chlorobenzene	100	0.053 (0.053) *	<0.020	<0.020	0.45 (0.039) *					ND
Chloroform	6	<0.020	<0.020	<0.020	<0.020					ND
1,2-Dichloroethane	0.5	<0.020	<0.020	<0.020	0.027					0.027
1,1-Dichloroethylene	0.7	<0.020	<0.020	<0.020	0.41 (0.15) *					ND
2-Butanone (MEK)	200	<0.40	<0.40	<0.40	<0.40					ND
Tetrachloroethylene	0.7	<0.020	<0.020	<0.020	<0.020					ND
Trichloroethylene	0.5	<0.020	<0.020	<0.020	<0.020					ND
Vinyl chloride	0.2	<0.040	<0.040	<0.040	<0.040					ND
SEMIVOLATILES (mg/L)										
Cresol (o)	200	<0.050	<0.050	<0.050	<0.050					ND
Cresol (m,p)	200	<0.050	<0.050	<0.050	<0.050					ND
1,4-Dichlorobenzene	7.5	<0.050	<0.050	<0.050	<0.050					ND
2,4-Dinitrotoluene	0.13	<0.050	<0.050	<0.050	<0.050					ND
Hexachlorobenzene	0.13	<0.050	<0.050	<0.050	<0.050					ND
Hexachlorobutadiene	0.5	<0.050	<0.050	<0.050	<0.050					ND
Hexachloroethane	3	<0.050	<0.050	<0.050	<0.050					ND
Nitrobenzene	2	<0.050	<0.050	<0.050	<0.050					ND
Pentachlorophenol	100	<0.25	<0.25	<0.25	<0.25					ND
2,4,5-Trichlorophenol	400	<0.25	<0.25	<0.25	<0.25					ND
2,4,6-Trichlorophenol	2	<0.050	<0.050	<0.050	<0.050					ND
Pyridine	5	<0.25	<0.25	<0.25	<0.25					ND

\* Methods SW-846-1311 - Toxicity characteristic leaching procedure (TCLP) results which are above the quantitation limit have been corrected by analytical bias per instructions in Section 8.2.5 of Method 1311 (Federal Register, June 29, 1990). The first number reported is the corrected TCLP value (used to determine if the sample is hazardous) and the value in parenthesis ( ) is the uncorrected analytical results.

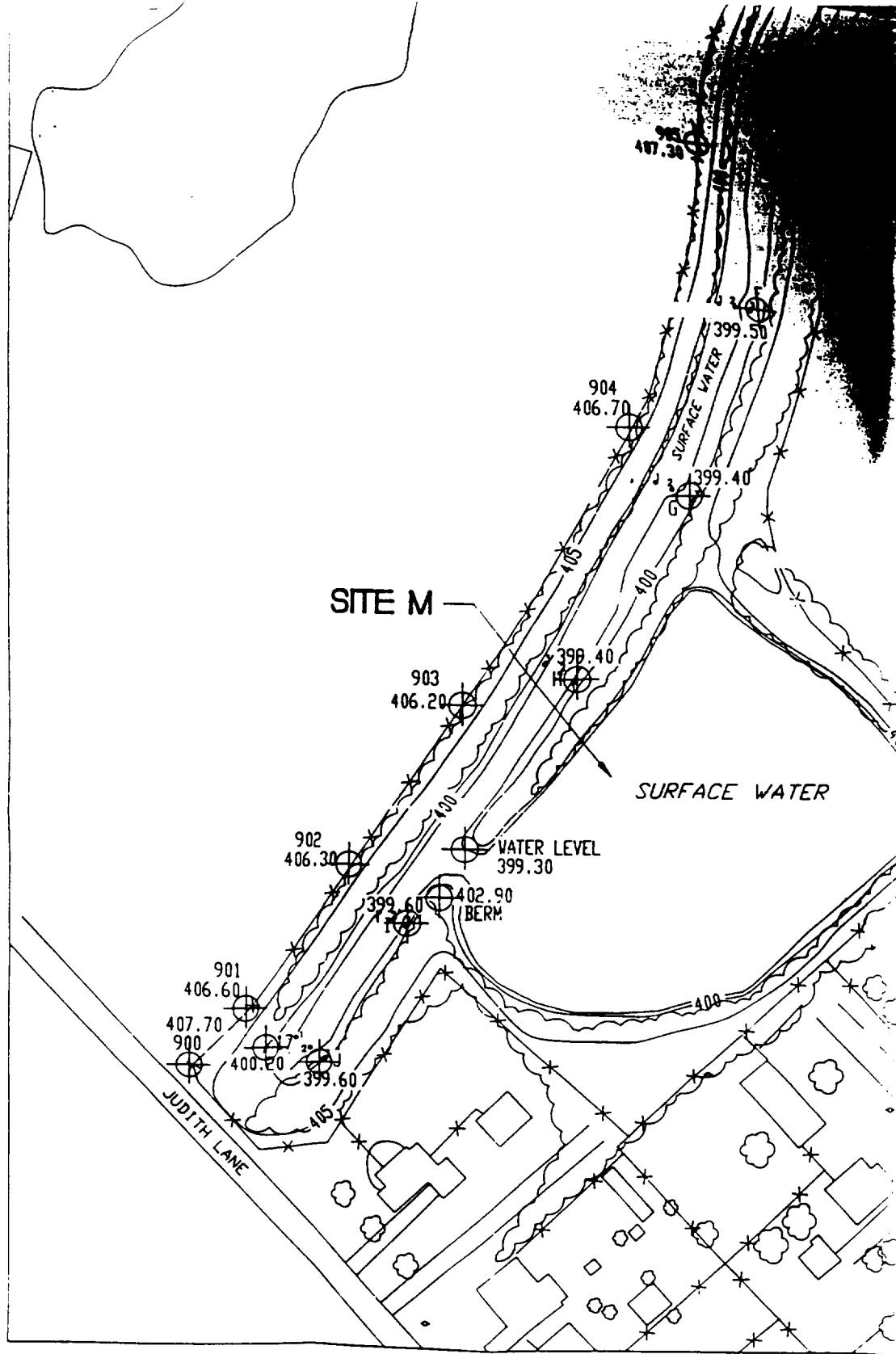
**SAUGET Analytical Data  
Dead Creek - Segment B**

**SEDIMENT SAMPLES  
RCRA Hazardous Characteristic Parameters  
Collected by Geraghty & Miller, Inc. (10/91)**

Sample Number	AB	CDE	FGH	IJ						Maximum
Sample Depth (ft)	Regulatory	0-6	0-6	0-6	0-5					Concentration
Date Collected	Limit	10/18/91	10/18/91	10/23/91	10/24/91					Detect
PESTICIDES (mg/L)										
Chlorodane	0.03	<0.0050	<0.0050	<0.0050	<0.0050					ND
Endrin	0.02	<0.0010	<0.0010	<0.0010	<0.0010					ND
Heptachlor	0.008	<0.0050	<0.0050	<0.0050	<0.0050					ND
Heptachlor epoxide	0.008	<0.0050	<0.0050	<0.0050	<0.0050					ND
Lindane (γ-BHC)	0.4	<0.0050	<0.0050	<0.0050	<0.0050					ND
Methoxychlor	10	<0.025	<0.025	<0.025	<0.025					ND
Toxaphene	0.5	<0.050	<0.050	<0.050	<0.050					ND
HERBICIDES (mg/L)										
2,4-D	10	<0.050	<0.050	<0.050	<0.050					ND
Silvex (2,4,5-TP)	1	<0.010	<0.010	<0.010	<0.010					ND
METALS (mg/L)										
Arsenic	5	<0.20	<0.20	<0.20	<0.20					ND
Barium	100	1.8 (1.8) *	1.9 (1.8) *	2.5 (2.4) *	2.5 (2.5) *					ND
Cadmium	1	0.083 (0.074) *	0.13 (0.12) *	0.34 (0.28) *	0.51 (0.43) *					ND
Chromium	5	<0.050	<0.050	<0.050	<0.050					ND
Lead	5	<0.20	<0.20	0.29 (0.26) *	0.23 (0.21) *					ND
Mercury	0.2	<0.020	<0.020	<0.020	<0.020					ND
Selenium	1	<0.50	<0.50	<0.50	<0.50					ND
Silver	5	<0.010	<0.010	<0.010	<0.010					ND

\* Methods SW-846-1311 - Toxicity characteristic leaching procedure (TCLP) results which are above the quantitation limit have been corrected by analytical bias per instructions in Section 8.2.5 of Method 1311 (Federal Register, June 29, 1990). The first number reported is the corrected TCLP value (used to determine if the sample is hazardous) and the value in parenthesis ( ) is the uncorrected analytical results.





**GERAGHTY  
& MILLER, INC.**

Enviro

DRAWING CONFIDENTIAL: THIS DRAWING  
AND ALL INFORMATION CONTAINED THEREON IS  
AND SHALL REMAIN THE PROPERTY OF GERAGHTY  
& MILLER, INC. AS AN INSTRUMENT OF PROGRESS

LOCATION MAP - BORING LOCATIONS D thru J

**SCALE VERIFICATION**

THIS BAR REPRESENTS  
ONE INCH ON THE  
ORIGINAL DRAWING:

USE TO VERIFY FIGURE  
REPRODUCTION SCALE

PROJECT NO.: NYB05C

DRAWING: DC123E

DRAFTED BY: CS

CHECKED BY: BAB

APPROVED BY: DC

SAUGET Analytical Data  
Dead Creek - Segment B  
SOIL/SEDIMENT SAMPLES

Collected by IEPA and Monsanto Chemical Co. (10/80)

Sample Number	Date Collected	Location	0100301	0100303	0100305	0041701	Maximum Concentration
			102/80	102/80	1002/80	4/16/80	Detected
			40 yds S. of Queeny	268 paces S.	270 paces S.	Soil Blank	
			Ave. Center of Creek	of 0100301	of 0100303	Mo. Bottoms	
PCBs and Elemental Phosphorus (mg/kg)							
PCB's (Cl <sub>1</sub> to Cl <sub>4</sub> Homologs)			13000	240	45	ND<1	13000
P <sub>4</sub>			ND<1	ND<1	ND<1	ND<1	ND
CHLOROBENZENES (mg/kg)							
Monochlorobenzene			(0.9)	ND<1	(0.3)	ND<1	ND
p-Dichlorobenzene			370	(0.3)	(0.4)	ND<1	370
o-Dichlorobenzene			80	(0.6)	1	ND<1	80
Trichlorobenzenes (3)			85	1.6	(0.7)	ND<1	85
Tetrachlorobenzenes (3)			6.1	2.4	(0.4)	ND<1	6.1
Pentachlorobenzene			ND<1	ND<1	ND<1	ND<1	ND
Hexachlorobenzene			ND<1	1.2	ND<1	ND<1	1.2
Nitrochlorobenzenes (o,p-)			120	ND<1	ND<1	ND<1	120
CHLOROPHENOLS (mg/kg)							
o-Chlorophenol			3.7	ND<1	ND<1	ND<1	3.7
p-Chlorophenol			6.6	ND<1	(0.9)	ND<1	6.6
2,4-Dichlorophenol			1.2	ND<1	ND<1	ND<1	1.2
Pentachlorophenol			130	ND<1	1.8	ND<1	130
PHOSPHATE ESTERS (mg/kg)							
Dibutylphenyl phosphate			330	ND<1	(0.8)	ND<1	330
Butyldiphenyl phosphate			ND<1	ND<1	(0.8)	ND<1	ND
Triphenyl phosphate			2600	ND<1	ND<1	ND<1	2600
Diethylhexyldiphenyl phosphate			ND<1	ND<1	2.2	ND<1	2.2
Dodecyldiphenyl phosphate			ND<1	ND<1	ND<1	ND<1	ND
Tri-Butylphenyldiphenyl phosphate			28	ND<1	ND<1	ND<1	28
Di-T-Butylphenyldiphenyl phosphate			ND<1	ND<1	ND<1	ND<1	ND
Monophenyldiphenyl phosphate			ND<1	ND<1	ND<1	ND<1	ND
Dimyphenyldiphenyl phosphate			3.7	ND<1	ND<1	ND<1	3.7
PHOSPHORUS CONTENT (mg/kg)							
P-Elemental, by GC/MS			ND<1	ND<1	ND<1	ND<1	ND
P-Inorganic, by ICP			2500	13000	9400	610	13000
Total Phosphate Esters, by GC/MS			3000	ND<10	4	ND<10	3000

(1) - Below Detection Limit  
ND - Not Detected

**SAUGET Analytical Data  
Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES  
Metals (mg/kg)  
Collected by IEPA and Monsanto Chemical Co. (10/80)**

	Sample Number	0100301	0100303	0100305	0041701	Maximum
	Date Collected	10/2/80	10/2/80	10/02/80	4/16/80	Concentration
	Location	40 yds S. of Queeny	268 paces S.	270 paces S	Soil Blank	Detected
<b>Metals</b>						
Silver		ND<1	42	29	ND<1	42
Aluminum		1400	5100	5300	5600	5600
Barium		770	1200	1300	130	1300
Beryllium		ND<1	ND<1	ND<1	ND<1	ND
Boron		28	160	100	27	160
Calcium		8500	9200	6200	4600	9200
Cadmium		5.1	60	55	3.9	60
Cobalt		15	180	120	33	180
Chromium		25	110	240	19	240
Copper		460	28000	18000	19	28000
Iron		4700	53000	30000	9900	53000
Magnesium		460	2200	2000	2300	2300
Manganese		29	170	110	510	510
Molybdenum		6.1	92	68	11	92
Sodium		400	540	410	320	540
Nickel		110	2000	1700	39	2000
Lead		180	2000	1600	50	2000
Phosphorus		2500	13000	9400	610	13000
Antimony		13	240	160	29	240
Silicon		73	150	89	110	150
Tin		18	260	220	18	260
Strontium		35	230	110	17	230
Titanium		32	110	80	37	110
Vanadium		34	140	130	130	140
Zinc		280	32000	18000	56	32000
Arsenic (by AA)		210	40	55	5	210

mg/kg - Milligrams per kilogram

AA - Atomic Absorption Spectrophotometry

ND - Not detected



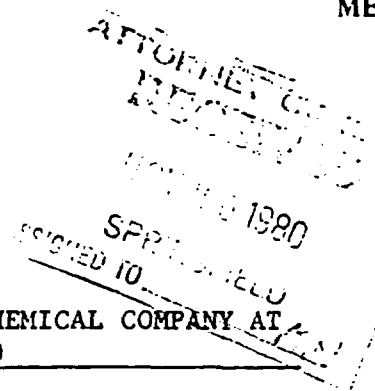
## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: November 19, 1980

TO: FILE

FROM: Jim Kelty

SUBJECT: COOPERATIVE SAMPLING BETWEEN IEPA AND MONSANTO CHEMICAL COMPANY AT  
DEAD CREEK, CAHOKIA, ILLINOIS, ON OCTOBER 2, 1980

On October 2, 1980 Jim Kelty and Geoff Langley of the Illinois Environmental Protection Agency and Paul Heisler and Dick Sinise of Monsanto Chemical Company jointly sampled three soil areas in Dead Creek between Queeny Road and Judith Lane. Also sampled was the private well at Theresa's Greenhouse, 101 Walnut Street, Cahokia, Illinois. It was agreed to analyze the three soil samples for PCB's and total phosphorous, and the well sample for PCB's only.

The following are the analytical results as reported by the Illinois EPA laboratories and Monsanto Chemical Co.

<u>SAMPLE SITE</u>	<u>PCB's</u>		<u>TOTAL PHOSPHOROUS</u>	
	<u>IEPA</u>	<u>MONSANTO</u>	<u>IEPA</u>	<u>MONSANTO</u>
1) Soil 40 yards south of Queeny Road labeled "N"	10,000	13,000	2000	2500
2) Soil Sample labeled "C" taken 268 steps south of sample "N"	350	240	8900	13,000
3) Soil Sample labeled "S" taken 270 steps south of sample "C"	73	45	4700	9400
4) Water Sample taken from private well at 101 Walnut Street, Cahokia, Illinois	N.D.*	N.D.*	N.A.**	N.A.

\*None Detected (lower detectable limit for PCB's in water is 0.1 PPB).

\*\* Sample not analyzed for phosphorous.

JK:jks



**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SURFACE WATER SAMPLE**  
**Units (mg/l unless otherwise noted)**  
**Collected by EASTEP**

recycled paper

Sample Number	SW1	Maximum
Date Collected	05/15/75	Concentration
Heavy Metals		Detected
Copper	0.3	0.3
Chromium, Total	0	ND
Iron, Total	3.2	3.2
Mercury (ppb)	0.1	0.1
Ammonia (as N)	2.0	2
Chloride	150	150
Cyanide	0	ND
COD	36	36
TDS	890	890
Suspended Solids	25	25
pH (units)	7.5	7.5

mg/L - Milligrams per liter.

ND - Not detected

ppb - Parts per billion

ecology and environment

Date Collected MAY 15, 1975 Collector EASTEP  
Facility Name: CERRO COPPER & BRASS / MORGANTO File Town:  
Stream Name(s) DEAR CREEK Stream Code:

Source of Sample: (Exact Location) DEAR CK on So. Side of Quarry Rd.

Physical Observations, Remarks: Yellow - Orange Color - Bottom Deposit

Chemical odor

Flow	Field Dissolved Oxygen	Field pH <u>7.0</u>	Field Temp.
Arsenic	Coliform/100ml	BOD	
Barium	Fecal Coliform	<u>36</u> COD	
Boron	100 ml	<u>570</u> TS/EC	
Cadmium	Fecal Strep	<u>25</u> Susp. Solids	
0.30 Copper	100 ml		
Chromium (tri)	Algae (Total) /ml		
0.00 Chromium (hex)	2.0 Ammonia (N)	7.5 pH (units)	
3.2 Iron (Total)	Organic Nitrogen (N)		
Iron (Dissolved)	Nitrate + Nitrite (N)		
Lead	Phosphorus (P)		
Manganese	150 Chloride		
0.1 Mercury (ppb)	Fluoride		
Nickel	Sulfate		
Selenium	0.000 Cyanide		
Silver	MBAS		
Zinc	Phenol (ppb)		

Results in mg/l unless otherwise noted.

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FOR LAB USE ONLY  
Lab Number: A19840 rec'd by: Smith  
Date sample rec'd: MAY 6 1975 Time: 2:15 PM  
Date analysis complete: MAY 28 1975  
Date results forwarded: MAY 29 1975  
Total Tests requested: 11 Tests run: 11  
Lab Section: Metals/Trace

## SAUGET Analytical Data

Dead Creek - Segment B

 SURFACE WATER SAMPLES  
 Volatile Organic Compounds (µg/L)  
 Collected by IEPA

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Sample Number	S501	S502	S503	S501	Maximum
Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
VOCS					Detected
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND
Acetone	ND	51	34	ND	51
Carbon Disulfide	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	3 J	ND	3 J
1,1-Dichloroethane	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	19	ND	ND	19
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	2 J	2 J
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	3 J	6 J	20	19	20
Chlorobenzene	ND	ND	21	33	33
Ethylbenzene	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	NA	ND
Total Xylenes	ND	ND	ND	NA	ND

µg/L - Micrograms per liter.

J - Estimated value

ND - Not Detected

NA - Not Analyzed

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SURFACE WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by IEPA**

	Sample Number	S501	S502	S503	S501	Maximum
	Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
BNAs						Detected
Phenol		ND	ND	25	28	28
bis(2-Chloroethyl)ether		ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	7 J	14	14
1,3-Dichlorobenzene		ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	5 J	5 J
Benzyl Alcohol		NA	NA	NA	NA	NA
1,2-Dichlorobenzene		ND	ND	ND	ND	ND
2-Methylphenol		2 J	ND	4 J	ND	4 J
bis(2-Chloroisopropyl)ether		NA	NA	NA	NA	NA
4-Methylphenol		10 J	7 J	35	ND	35
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND	ND
2,4-Dimethylphenol		ND	ND	5 J	ND	5 J
Benzoic Acid		NA	NA	NA	NA	NA
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND	ND
2,4-Dichlorophenol		2 J	5 J	10 J	150	150
1,2,4-Trichlorobenzene		ND	ND	ND	2 J	2 J
Naphthalene		2 J	ND	8 J	ND	8 J
4-Chloroaniline		ND	ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND	ND
2-Methylnaphthalene		ND	ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	6 J	6 J
2,4,5-Trichlorophenol		ND	ND	ND	6 J	6 J
2-Chloronaphthalene		ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND
Dimethylphthalate		ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank sample

J - Estimated value

ND - Not Detected

NA - Not Analyzed

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SURFACE WATER SAMPLES**

Base Neutrals/Acids (µg/L)

Collected by IEPA

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Sample Number	S501	S502	S503	S501	Maximum
Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
<b>PNAs</b>					<b>Detected</b>
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	NA	NA	NA	NA	NA
Diethylphthalate	ND	ND	ND	3 J	3 J
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND
Pentachlorophenol	ND	4 J	ND	120	120
Phenanthrene	ND	ND	ND	ND	ND
Carbazole	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND
Di-n-butyl phthalate	20 B	3 J	6 JB	ND	20 B
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank sample

J - Estimated value

ND - Not Detected

NA - Not Analyzed

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SURFACE WATER SAMPLES**  
**Total Metals (µg/L)**  
**Collected by IEPA**

	Sample Number	S501	S502	S503	S501	Maximum
	Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
Total Metals						Detected
Aluminum		952	630	ND	NA	952
Antimony		ND	ND	ND	ND	ND
Arsenic		NA	5.6 BNW	2.6 BNW	3.7 BW	5.6 BNW
Barium		273	269	192 B	NA	273
Beryllium		ND	ND	ND	ND	ND
Cadmium		ND	4.8 B	ND	5.1	5.1
Calcium		83800	121000	103000	NA	121000
Chromium		ND	8.3 B	5.3 B	5.6 B	8.3 B
Cobalt		ND	ND	ND	NA	ND
Copper		141	1150	96.4	224	1150
Iron		2450	3310	5800	NA	5800
Lead		NA	120 N	9.2 *	24.4 S	120 N
Magnesium		7530	11800	10700	NA	11800
Manganese		519	589	796	NA	796
Mercury		NA	0.2	ND	ND	0.2
Nickel		ND	ND	ND	ND	ND
Potassium		6560	4570 B	8440	NA	8440
Selenium		NA	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND
Sodium		14900	16100	27300	NA	27300
Thallium		NA	ND	ND	ND	ND
Vanadium		6.6 B	8.1 B	5.1 B	NA	8.1 B
Zinc		412	432	71.4	193	432
Cyanide		ND	NA	ND	ND	ND

µg/L - Micrograms per liter.

B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.

N - Laboratory spike recoveries were outside QC protocols.

S - Analysis performed using the method of standard additions.

W - Laboratory post-digestion spike for furnace AA analysis exceeds QC limits.

\* - Duplicate analysis not within control limits.

ND - Not Detected

NA - Not Analyzed

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SURFACE WATER SAMPLES**  
**Pesticides/PCBs/Herbicides (µg/L)**  
**Collected by IEPA**

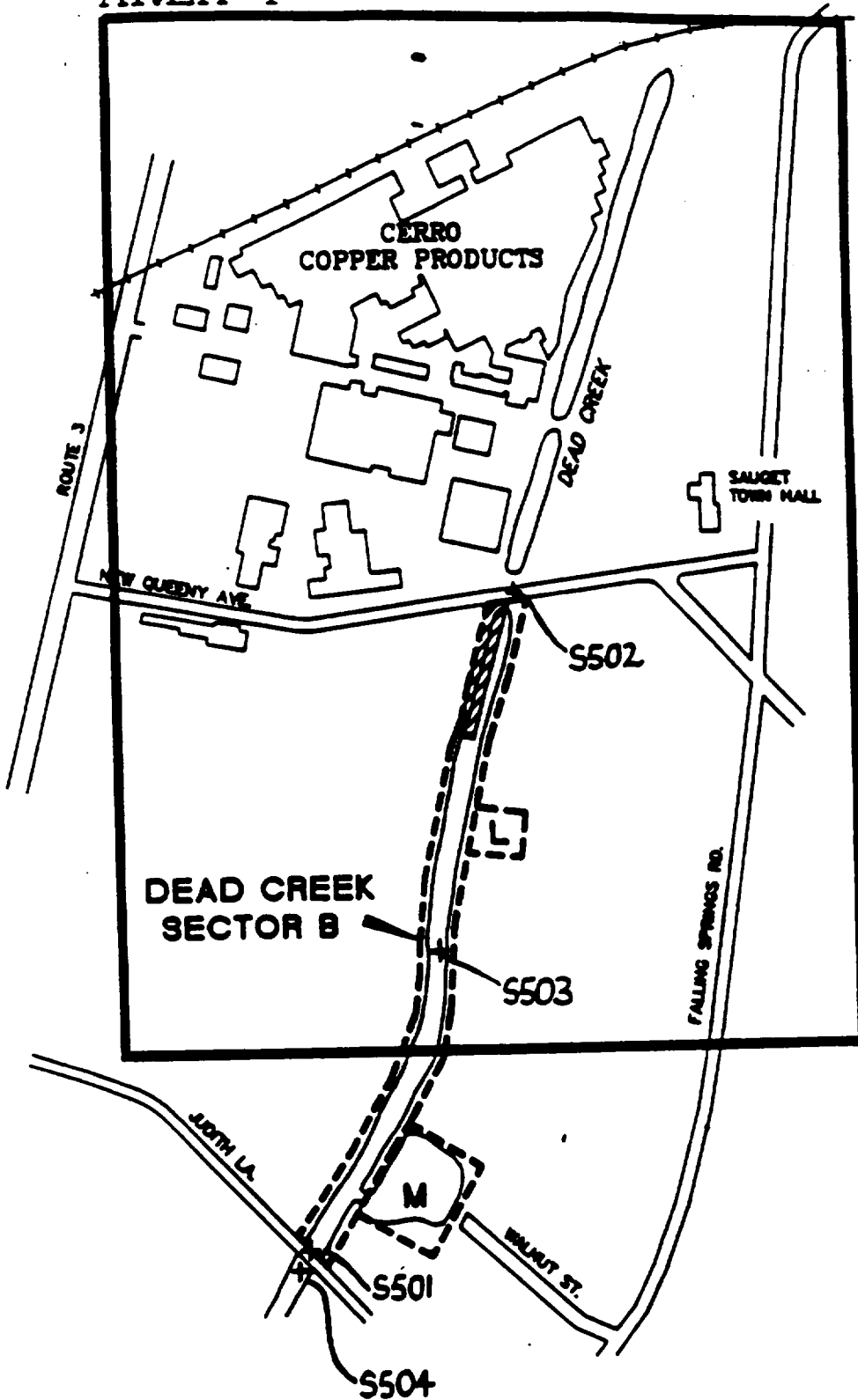
	Sample Number	S501	S502	S503	S501	Maximum
	Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
Pesticides/PCBs						Detected
Alpha-BHC		ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	0.18	0.18
4,4'-DDE		ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	0.06	0.06
4,4'-DDD		ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	0.24	0.24
Methoxychlor		ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND	ND
Herbicides						
2,4-D		NA	NA	NA	47	47
Silvex		NA	NA	NA	3.4	3.4

µg/L - Micrograms per liter

NA - Not analyzed

ND - Not detected

# AREA I



SCALE  
0 500 FT

SOURCE: Ltr. to A. Altur (USEPA) from P. Takacs (IEPA) dated Nov. 2, 1993



**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES**  
**Total Metals/Organics (mg/kg)**  
**Collected by IEPA (09/80- 10/80)**

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Sample Number	x106	x113	x114	x115	x116	x117	x118	x119	x120	x125	x126
<b>TOTAL METALS</b>											
Aluminum	NA	10000	6400	9000	9000	1300	1200	NA	NA	NA	NA
Arsenic	NA	300	23	18	9	16	15	NA	NA	NA	NA
Barium	NA	2400	1600	3400	300	400	1600	510	1200	2500	5000
Beryllium	NA	ND	ND	ND	ND	ND	ND	1	1	ND	2
Boron	NA	ND	ND	ND	ND	ND	6	ND	ND	ND	76
Cadmium	NA	400	ND	120	ND	ND	ND	7	3	6	70
Calcium	NA	11000	14000	11000	5000	1600	6000	7300	72000	6900	19000
Chromium	NA	260	400	120	130	ND	ND	36	38	50	100
Cobalt	NA	100	ND	40	ND	ND	ND	9	10	9	50
Copper	NA	3800	4800	22000	270	160	1000	100	150	1000	44800
Iron	NA	365000	55000	40000	12000	2400	4300	17500	16200	7000	107000
Lead	NA	3600	2000	3200	80	ND	100	43	60	260	2000
Magnesium	NA	4000	2800	5000	2600	1200	1000	4500	4300	380	3700
Manganese	NA	120	130	160	60	40	50	260	350	45	280
Mercury	NA	30	1.7	4	0.2	2	2	NA	NA	NA	NA
Nickel	NA	2600	1700	2400	140	ND	ND	ND	80	130	3000
Phosphorus	NA	NA	NA	NA	NA	NA	NA	NA	NA	2000	8900
Potassium	NA	1400	1300	1500	2300	850	1200	1800	1200	770	860
Silver	NA	ND	ND	ND	ND	50	ND	ND	ND	ND	100
Sodium	NA	2800	700	1100	360	150	180	110	225	80	1400
Strontium	NA	180	140	200	40	ND	ND	42	140	50	300
Vanadium	NA	ND	ND	150	ND	ND	ND	27	27	13	85
Zinc	NA	61000	20000	71000	2500	ND	300	2000	700	1500	62000
<b>ORGANICS</b>											
PCBs	5200	NA	NA	NA	NA	NA	NA	1.1	80	10000	350
Alkylbenzenes	ND	NA	NA	NA	NA	NA	NA	ND	ND	370	ND
Dichlorobenzene	ND	NA	NA	NA	NA	NA	NA	ND	ND	660	ND
Dichlorophenol	ND	NA	NA	NA	NA	NA	NA	ND	ND	170	ND
Hydrocarbons	ND	NA	NA	NA	NA	NA	NA	ND	ND	21000	ND
Naphthalenes	ND	NA	NA	NA	NA	NA	NA	ND	ND	650	ND
Trichlorobenzene	ND	NA	NA	NA	NA	NA	NA	ND	ND	78	ND

mg/kg - Milligrams per kilogram.

ND - Not detected

NA - Not analyzed

ecology and environment

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES**  
**Total Metals/Organics (mg/kg)**  
**Collected by IEPA (09/80 - 10/80)**

	Sample Number	x107	x108	x109	x110	x111	x112	x121	x122	x127	Maximum Concentration Detected
<b>TOTAL METALS</b>											
Aluminum		NA	8000	9100	7000	8000	6600	NA	NA	NA	10000
Arsenic		6000	44	25	67	80	50	NA	NA	NA	6000
Barium		4800	3800	1600	4300	1800	8000	230	5500	2500	8000
Beryllium		ND	ND	ND	ND	ND	ND	ND	2	2	2
Boron		ND	ND	ND	ND	ND	ND	ND	ND	ND	76
Cadmium		70	ND	200	40	100	100	1	35	50	400
Calcium		11000	10000	24000	16000	13000	30000	11000	15000	8000	72000
Chromium		360	300	ND	140	50	50	ND	50	340	400
Cobalt		30	30	20	ND	ND	30	9	15	30	100
Copper		32000	31000	7700	22000	15000	41000	100	21900	28000	44800
Iron		70000	58000	75000	67000	68000	52000	16500	50000	63000	365000
Lead		24000	2000	1700	2000	2000	5100	ND	1700	1700	24000
Magnesium		2900	3900	3600	4100	4000	4000	5900	3800	2700	5900
Manganese		150	150	300	200	160	300	370	190	150	370
Mercury		ND	1.7	3	3.3	3.2	6	ND	ND	ND	30
Nickel		3500	3000	900	1900	2000	2700	120	1700	NA	3500
Phosphorus		7040	ND	ND	ND	ND	ND	ND	ND	4700	8900
Potassium		1200	1500	1700	1300	1600	1200	1500	960	1000	2300
Silver		40	ND	ND	ND	ND	ND	ND	30	40	100
Sodium		1700	900	900	700	1000	1600	80	630	700	2800
Strontium		180	200	130	160	160	430	32	190	130	430
Vanadium		60	ND	ND	70	100	ND	25	45	45	150
Zinc		25000	22000	27000	25000	47000	52000	230	19900	28000	71000
<b>ORGANICS</b>											
PCBs		120	ND	ND	ND	ND	ND	ND	540	73	10000
Alkylbenzenes		NA	NA	NA	NA	NA	NA	NA	NA	NA	370
Dichlorobenzene		ND	ND	ND	ND	ND	ND	ND	0.35	ND	660
Dichlorophenol		NA	NA	NA	NA	NA	NA	NA	NA	NA	170
Hydrocarbons		NA	NA	NA	NA	NA	NA	NA	NA	NA	21000
Naphthalenes		NA	NA	NA	NA	NA	NA	NA	NA	NA	650
Trichlorobenzene		NA	NA	NA	NA	NA	NA	NA	NA	NA	78

mg/kg - Milligrams per kilogram

ND - Not detected

NA - Not analyzed

**SAUGET Analytical Data  
Dead Creek - Segment B**

**SUBSURFACE SOIL SAMPLES  
Organic Compounds (mg/kg)  
Collected by IEPA**

	Sample Number	P-1	P-1	P-1	P-1	P-1	P-1	P-1	Maximum
	Sample Depth (ft)	0-1	1-2	2-3	3-4	4-5	5-6	6-7	Concentration
	Date Collected	9/8/80	9/8/80	9/8/80	9/8/80	9/8/80	9/8/80	9/8/80	Detected
<b>ORGANICS</b>									
<b>Biphenyl</b>		6000	9000	1100	ND	ND	ND	ND	9000
<b>Chloronitrobenzene</b>		200	240	ND	ND	ND	ND	ND	240
<b>Dichlorobenzene</b>		12000	8900	240	ND	ND	ND	ND	12000
<b>PCBs</b>		9200	2600	92B-6	240	53	53	54	9200
<b>Trichlorobenzene</b>		380	3700	590	ND	ND	ND	ND	3700
<b>Xylene</b>		540	250	ND	ND	ND	ND	ND	540

mg/kg - Milligrams per kilogram

ND - Not detected.

SOURCE: "Description of Current Situation at the Dead Creek Project Sites", E&E 1986

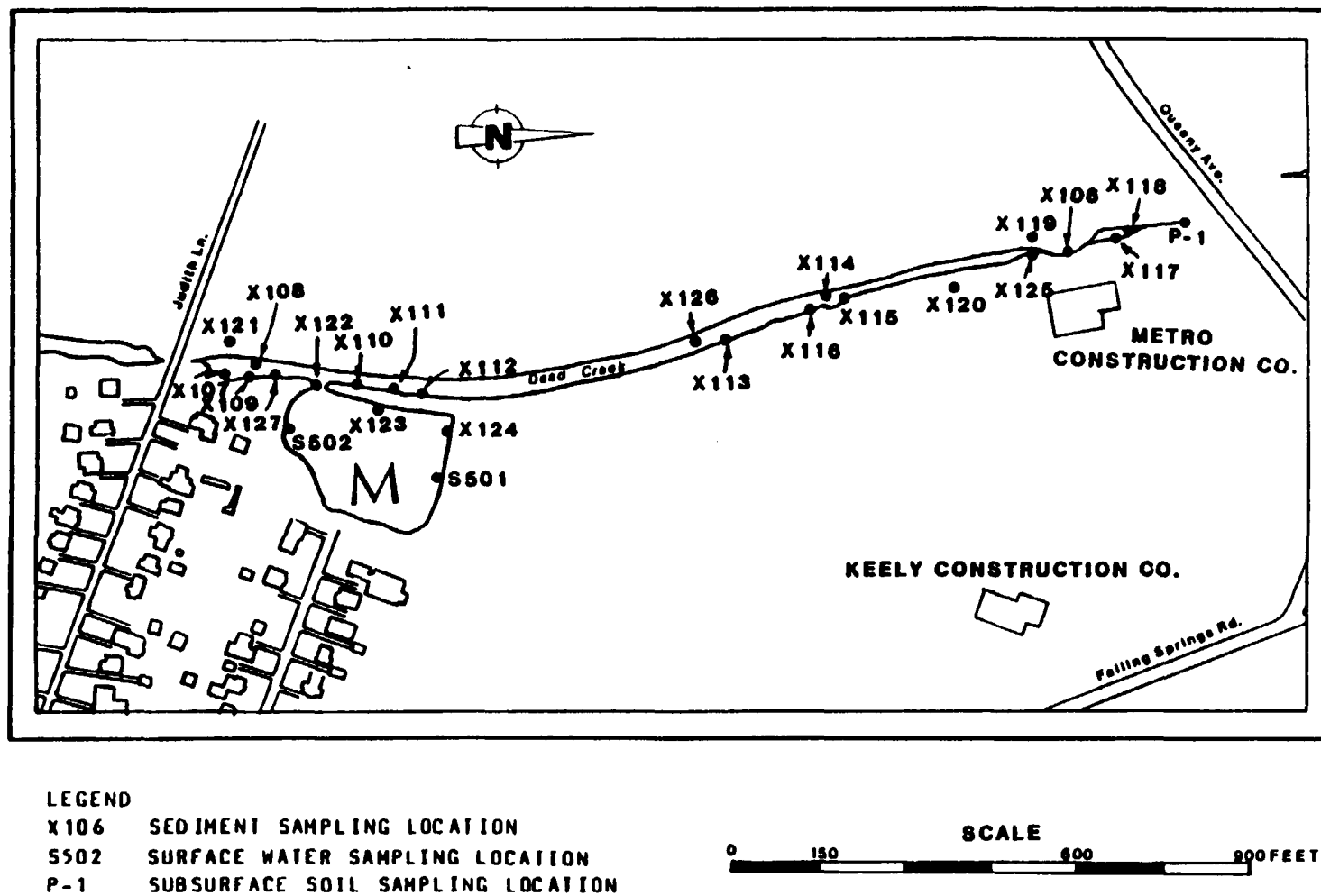


FIGURE B-1  
IEPA SAMPLING LOCATIONS AT CREEK SECTOR B AND SITE M

**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES**  
**Metals (mg/kg)**  
**Collected by IEPA (09/25/80)**

Sample Number	1	2	3	4	5	Maximum
						Concentration
<b>Metals</b>						
Iron	17500	16200	16500	50000	49000	50000
Manganese	260	350	370	190	200	370
Calcium	7300	72000	11000	15000	12500	72000
Magnesium	4500	4300	5900	3800	3400	5900
Sodium	110	225	80	630	650	650
Potassium	1800	1200	1500	960	950	1800
Barium	510	1200	230	5500	4400	5500
Boron	ND	ND	ND	ND	ND	ND
Cadmium	7	3	ND	35	40	40
Chromium	36	38	ND	150	150	150
Copper	100	150	100	21900	18700	21900
Lead	43	60	ND	1700	1400	1700
Nickel	ND	80	12	1700	1600	1700
Silver	ND	ND	ND	30	30	30
Zinc	2000	700	230	19900	17700	19900
Beryllium	1	1	ND	2	3	3
Cobalt	9	10	9	15	15	15
Strontium	42	140	32	190	175	190
Vanadium	27	27	25	45	42	45
Phosphorus	630	2800	5300	520	4800	5300

mg/kg - Milligrams per kilogram.

ND - Not detected

September 26, 1980

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

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SEP 30 1980

IEPA-DAPC-SPFLD

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

<u>Sample Number</u>	<u>Location</u>	<u>Depth of Sample</u>
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

September 26, 1980

- 6 Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond. 9 inches (composite)
- 7 Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek. 12 inches (composite)
- 8 Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek. 6 inches (composite)
- 9 Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.
- 10 Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.
- 11 Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge. 6 inches (composite)
- 12 Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried). 12 inches (composite)

cc: Southern Region  
Bill Child  
Jim Kelty ✓  
Attorney General

**SAUGET Analytical Data**  
Dead Creek - Segment B

**SOIL/SEDIMENT SAMPLES (mg/kg unless noted otherwise)**

**Collected by IEPA (10/31/80)**

recycled paper

Soil Data	Sample Number		1	2	10	11	12	13	14
	Sample Location		50 yd S of Queeny Ave	40 yd N of Judith Lane	125 ft N of Judith Lane	125 ft N of Judith Lane	100 yd N of #11	100 yd N of #11	100 yd N of #12
	Sample Type	Normal Soil	Soil	Soil	Soil	Soil - 12 inch bgs	Soil - 12 inch bgs	Soil - Surface	Soil - Surface
Barium		250	NA	4800	1800	900	2300	650	2300
Copper		70	NA	32000	19500	4100	13000	5700	15000
Lead		16	NA	2400	1500	1000	1200	900	2000
Nickel		80	NA	3500	2000	500	1150	820	1000
Phosphorous		1180	NA	7040	NA	NA	NA	NA	NA
Zinc		132	NA	25000	14000	15000	14000	18000	19000
PCB's (µg/kg)		* 28	5200	120	160	0.6	110	8	59
Chlordane (µg/kg)		* 50	NA	NA	ND	ND	ND	ND	ND
Alkylbenzenes		* 10-100	NA	NA	ND	ND	ND	ND	ND
Biphenyl		* NA	NA	NA	ND	ND	ND	ND	ND
Toluene		* 118	NA	NA	ND	ND	ND	ND	ND
Xylene		* 3	NA	NA	ND	ND	ND	ND	ND
Dichlorobenzene		* 5	NA	NA	ND	ND	ND	ND	ND
Trichlorobenzene		* 1-10	NA	NA	ND	ND	ND	ND	ND
Chloro-Nitrobenzene		* 10-100	NA	NA	ND	ND	ND	ND	ND
Dichlorophenol		* 500	NA	NA	ND	ND	ND	ND	ND

	Sample Number		15	16	17	18	19	20	25
	Sample Location		100 yd N of #12	100 yd N of #14	100 yd N of #14	100 yd N of #14	135 yd N of #16	135 yd N of #16, 5 yd W of #1	Drainage Cut
	Sample Type	Normal Soil	Soil - 9 inch bgs	Soil	Soil - 9 inch bgs	Soil - 18 inch bgs	Soil	Soil	Soil
Barium		250	950	1050	880	240	370	1400	5500
Copper		70	1400	3200	5700	180	140	840	21900
Lead		16	2500	1600	1000	< 25	< 25	< 100	1700
Nickel		80	1100	1300	700	100	< 10	< 10	1700
Phosphorous		1180	NA	NA	NA	NA	NA	NA	NA
Zinc		132	24000	14000	19000	1750	< 50	280	19900
PCB's (µg/kg)		* 28	3	220	32	0.05	1600	17000	540
Chlordane (µg/kg)		* 50	NA	ND	ND	ND	ND	ND	ND
Alkylbenzenes		* 10-100	NA	ND	ND	ND	ND	ND	ND
Biphenyl		* NA	NA	ND	ND	ND	ND	ND	ND
Toluene		* 118	NA	ND	ND	ND	ND	ND	ND
Xylene		* 3	NA	ND	ND	ND	ND	ND	ND
Dichlorobenzene		* 5	NA	ND	ND	ND	ND	ND	0.4
Trichlorobenzene		* 1-10	NA	ND	ND	ND	ND	ND	ND
Chloro-Nitrobenzene		* 10-100	NA	ND	ND	ND	ND	ND	ND
Dichlorophenol		* 500	NA	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

µg/kg - Micrograms per kilogram

NA - parameter not analyzed

ND - below detection limits

\* Maximum allowable concentration in units of mg/kg unless noted as otherwise



**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**SOIL/SEDIMENT SAMPLES (mg/kg unless noted otherwise)**

**Collected by IEPA (10/31/80)**

Sample Number	35	36	37	49	49A	49B	49C
Sample Location	40 yd S of Queens Ave	268 Steps S of #35	270 Steps S of #36	200 ft S of Queens Ave	200 ft S of Queens Ave	200 ft S of Queens Ave	200 ft S of Queens Ave
Sample Type	Normal Soil	Soil	Soil	Soil - 0 - 12 inch bgs	Soil - 1-2 ft bgs	Soil - 2-3 ft bgs	Soil - 3-4 ft bgs
Barium	250	2500	5000	2500	NA	NA	NA
Copper	70	1000	44500	28000	NA	NA	NA
Lead	16	260	2000	1700	NA	NA	NA
Nickel	80	130	3000	NA	NA	NA	NA
Phosphorous	1180	2000	8900	4700	NA	NA	NA
Zinc	132	1500	62900	28000	NA	NA	NA
PCB's (µg/kg)	* 28	1000	360	73	9200	2600	920
Chlordane (µg/kg)	* 50	ND	ND	ND	ND	ND	ND
Alkylbenzenes	* 10-100	370	ND	ND	ND	ND	ND
Biphenyl	* NA	ND	ND	ND	6000	9000	1100
Toluene	* 118	ND	ND	ND	ND	ND	ND
Xylene	* 3	ND	ND	ND	540	250	ND
Dichlorobenzene	* 5	880	ND	ND	12000	8900	240
Trichlorobenzene	* 1-10	78	ND	ND	380	3700	590
Chloro-Nitrobenzene	* 10-100	170	ND	ND	200	240	ND
Dichlorophenol	* 500	ND	ND	ND	ND	ND	ND

Sample Number	49D	49E	49F	24	Maximum
Sample Location	200 ft S of Queens Ave	200 ft S of Queens Ave	200 ft S of Queens Ave	30 yds N of Judith	Concentration
Sample Type	Normal Soil	Soil - 4-5 ft bgs	Soil - 5-6 ft bgs	Soil	Detected
Barium	250	NA	NA	230	5600
Copper	70	NA	NA	100	44500
Lead	16	NA	NA	ND	2500
Nickel	80	NA	NA	12	3500
Phosphorous	1180	NA	NA	NA	8900
Zinc	132	NA	NA	230	62900
PCB's (µg/kg)	* 28	53	54	ND	17000
Chlordane (µg/kg)	* 50	ND	ND	ND	ND
Alkylbenzenes	* 10-100	ND	ND	ND	370
Biphenyl	* NA	ND	ND	ND	9000
Toluene	* 118	ND	ND	ND	ND
Xylene	* 3	ND	ND	ND	540
Dichlorobenzene	* 5	ND	ND	ND	12000
Trichlorobenzene	* 1-10	ND	ND	ND	3700
Chloro-Nitrobenzene	* 10-100	ND	ND	ND	240
Dichlorophenol	* 500	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

µg/kg - Micrograms per kilogram

ND - parameter not analyzed

ND - below detection limits

\* Maximum allowable concentration in units of mg/kg unless noted as otherwise

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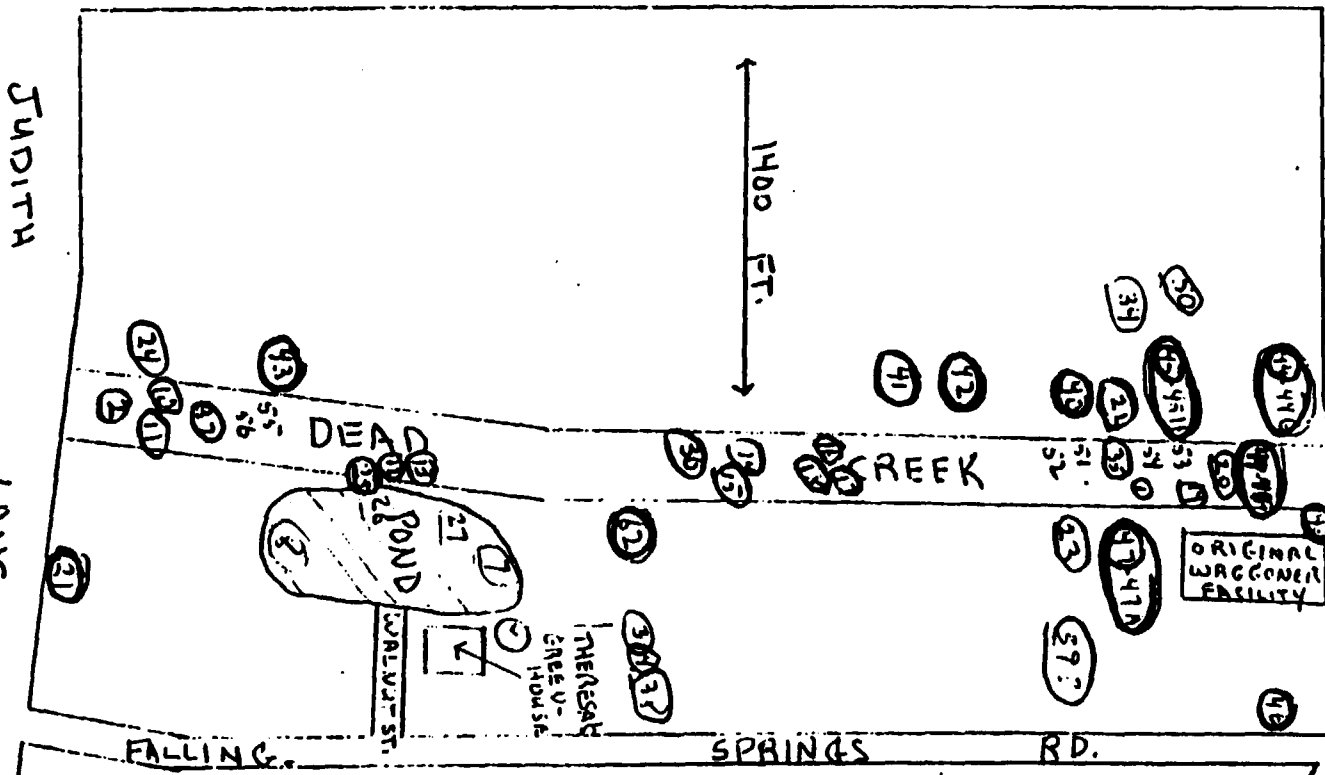
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LOCATION MAP FRP IEPA SAMPLES (1,2,10-20,24,25,35,36,37,43,AND 49 FROM 1980)

SOURCE: "Summary of the Phase Two Investigation at Dead Creek" Author Unknown and Date Unknown

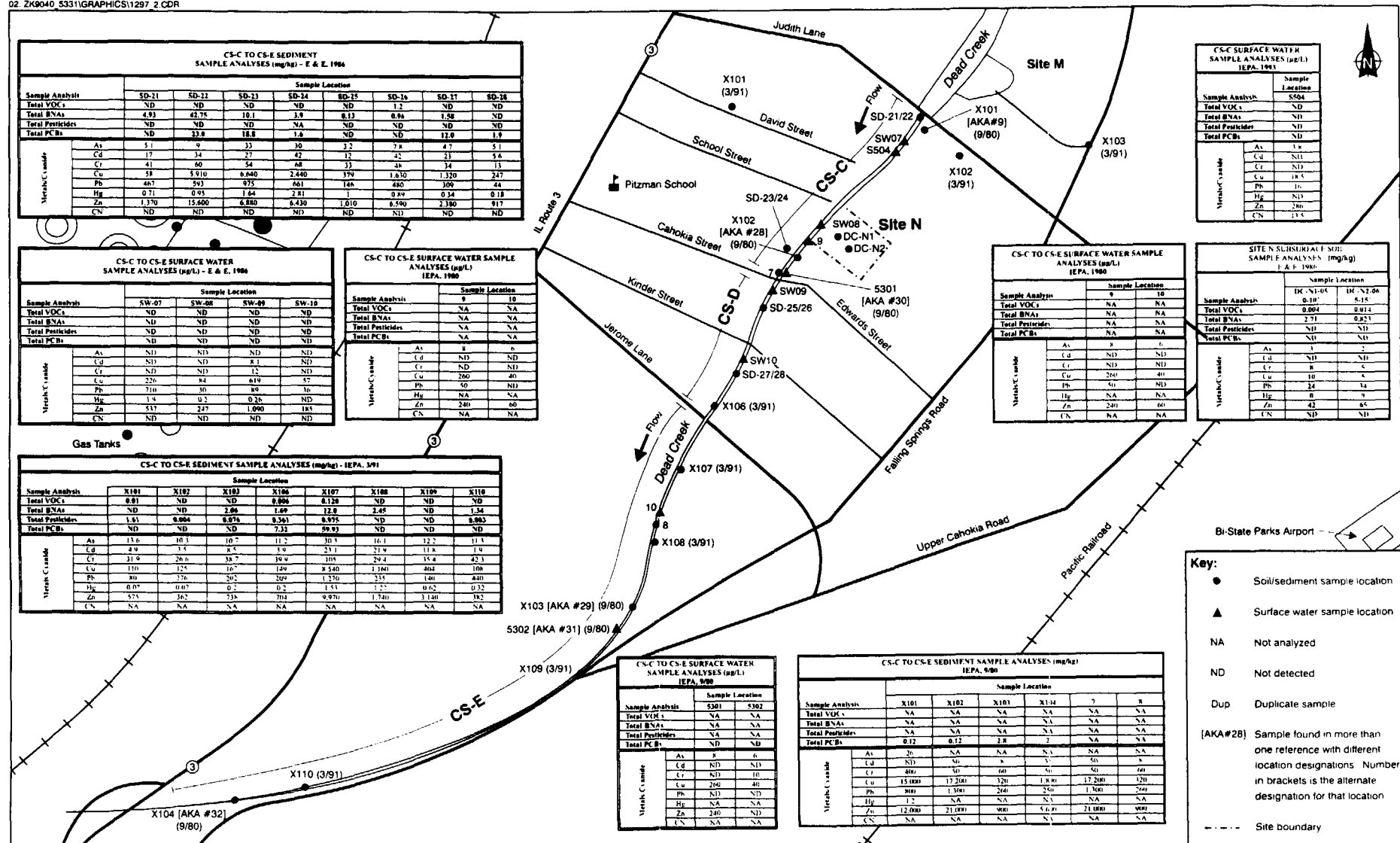
- soil - sediment (7)
- soil - subsurface (15)
- soil - surface (12)
- water - surface (6)
- water well (18)
- biomass (2)
- air (6)

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Site N and CS-C, D, E

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# SITE NARRATIVE

SITE N

SITE NARRATIVE - SAUGET AREA 1 / Site N		
Sample Locations	Sampling Entity	Date Sampled
DC-N1, DC-N2	E & E	12/86
Data Source		
"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988		
<p><b>Nature and Extent of Contamination:</b></p> <p>Two VOC's were detected at a maximum concentration of 0.014 mg/kg in the two subsurface soil samples collected at Site N. BNAs were detected at a maximum concentration of 2.28 mg/kg in the two samples collected, and pesticides/PCBs were not detected in either of the samples. No other known sampling has been conducted at Site N, which was identified by IEPA as a potential disposal site through review of historical aerial photos.</p> <p>The extent of contamination is poorly defined for Site N. This assessment is based on the fact that only two borings were conducted at the site and there is no groundwater data for the site. The samples collected, though, do appear to show only low level contamination may exist at the site.</p>		
<p><b>Containment and Integrity (if known):</b></p> <p>There is no known surface or subsurface containment in place at Site N. Access to the site is restricted by fencing.</p>		
<p><b>Other Comments:</b> See the attached "Site Description" for more site details.</p>		

## **SITE DESCRIPTION - Sauget Area 1/Site N**

Site N consists of an excavated area in the southwest corner of an inactive construction yard owned by the H.H. Hall Construction Company. The excavated area has been filled, and the fill area encompasses approximately 4 to 5 acres to the east of Dead Creek. Historical aerial photos indicate that excavation began in the 1940's. According to company officials, only concrete rubble and demolition debris was dumped into the pit. Two borings conducted at the site did not encounter waste materials, however, staining was noted on silt and sand samples from the six to ten foot interval in one boring. The site is currently inactive and fenced.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

# **SITE NARRATIVE**

## **CREEK SEGMENT C**



### SITE NARRATIVE - SAUGET AREA 1 / Creek Segment C

Sample Locations	Sampling Entity	Date Sampled	Data Source
SD-21 thru SD-24	E & E	11/05/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SW-07, SW08	E & E	11/05/86	"Expanded Site Inspection Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
X101, X102, 5301 (#9), (#28), (#30)	IEPA	9/80	Data for #9, #28, #30 comes from a "Summary of the Phase II Investigation of Dead Creek, Sauget/Cahokia, Illinois" author unknown, date unknown Data for X101, X102, and 5301, are identical to the data for #9, #28, and #30. The source for these samples is unknown
X101, X102, X103	IEPA	3/91	Untitled map with data tables of Microfiche/CERCLA SSIR Sauget Sites Area 1
#7, #9	IEPA	9/25/8?	Memo to Division file from T. Powell (southern region) dated September 26, 1980
S504	IEPA	9/23/93	Letter to Alan Altur (USEPA) from P. Takacs (IEPA) dated November 2, 1993 Re: Sample data
<p>Nature and Extent of Contamination:</p> <p>VOC's and Pesticides were not detected in any of the four sediment samples (SD-21 thru SD-24) collected which were analyzed for these parameters. BNA concentrations in sediments ranged from 3.9 to 42.75 mg/kg for 4 of the 4 sediment samples collected. PCB concentrations in sediments ranged from 1.6 to 23 mg/kg for 3 of the 4 samples collected. Most of the metals analyzed for were elevated throughout this segment, particularly copper, with a maximum detected concentration of 50,900 mg/kg. In addition to the creek sediment samples, three soil samples (X101-X103) were collected in 1991 at background locations. VOC's were detected in one background soil sample at a concentration of 0.01 mg/kg. BNAs were detected in one background soil sample at a concentration of 2.06 mg/kg. Pesticides were detected in all of the background soils at concentrations ranging from 0.004 to 1.61 mg/kg. PCB's were not detected in any of the three background soils. Some of the metals analyzed for were slightly elevated in the background soils.</p> <p>There were no organic compounds detected in the 3 surface water samples analyzed. Metals, specifically copper, were elevated in the waters.</p> <p>The extent of contamination is fairly well defined throughout the creek segment. The thickness of the contamination appears to be the only thing lacking in defining the contamination better.</p>			
<p>Containment and Integrity (if known):</p> <p>There is no known containment in CS-C. The creek bed and banks in this segment are heavily vegetated, and flow in the segment is intermittent. Access to CS-C is unrestricted.</p>			
<p>Other Comments: See the attached "Site Description" for more site details.</p>			

## **SITE DESCRIPTION - Sauget Area 1/Creek Segments C through F**

Creek segments C through F (CS-C, CS-D, CS-E, and CS-F) includes the entire length of Dead Creek south of Judith Lane. This portion of the creek flows south-southwest through the village of Cahokia prior to discharging into the Prairie Dupont Creek. CS-C through CS-F are delineated as follows: CS-C extends from Judith Lane at the north end to Cahokia Street to the south; CS-D extends from Cahokia Street to Jerome Street; CS-E extends from Jerome Street to the intersection of Illinois Routes 3 and 157; and CS-F extends from this intersection to the discharge point at Prairie Dupont creek. In the southern portion of CS-E near Parks College, Dead Creek temporarily passes through corrugated pipe, and downstream of this point the creek passes through a series of culverts prior to draining into a large wetland area (part of CS-F) west of Illinois Route 3. Dead Creek is wider in segment CS-F than in the upgradient segments. Segments C, D, and E are dominated by intermittent flow. Segments C and D are located adjacent to residential areas. Segment E runs through mostly commercial developments. Segments C through F have been impacted by the draining of upgradient contaminated segments of Dead Creek. Access to Dead Creek Segments C through F is unrestricted.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report and from a Site Summary for Sauget Area 1 Sites, both prepared by IEPA)

# **SITE NARRATIVE**

## **CREEK SEGMENT D**

### SITE NARRATIVE - SAUGET AREA 1 / Creek Segment D

Sample Locations	Sampling Entity	Date Sampled	Data Source
SD-25 thru SD-28	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SW09, SW10	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
X106	IEPA	3/28/91	Untitled Map with data Tables off Microfiche

#### Nature and Extent of Contamination:

VOCs were detected at concentrations ranging from 0.006 to 1.2 mg/kg in 2 of the 4 sediment samples collected in CS-D. BNA's in the sediments ranged from 0.13 to 1.69 mg/kg for 4 of 5 samples. Pesticides were detected in one sediment sample at a concentration of 0.361 mg/kg. PCBs were detected in sediments at concentrations ranging from 1.9 to 12 mg/kg for 3 of 5 samples analyzed. Most of the metals analyzed were elevated throughout the segment, particularly copper and zinc.

No organics were detected in the 2 surface water samples collected. Few metals were noted in the water samples, although copper and zinc were detected at slightly elevated concentrations.

The extent of contamination in segment CS-D is only fairly well defined. This assessment is based upon the fact that only 5 sediment samples were collected from three locations. additional samples would be required to quantify a volume for contaminated sediments.

#### Containment and Integrity (if known):

There is no known containment for CS-D. Access to this segment of the creek is unrestricted.

Other Comments: See "Site Description" for Creek Segment C for more site details.

# **SITE NARRATIVE**

## **CREEK SEGMENT E**

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment E			
Sample Locations	Sampling Entity	Date Sampled	Data Source
X107 thru X110	IEPA	3/28/91	Untitled map with data tables off Microfich
X103, 5302, X104 (#29), (#31), (#32)	IEPA	11/31/80	Data for #29, #31, #32 from "Summary of the Phase II Investigation of Dead Creek, Sauguet/Cahokia, Illinois" author unknown, date unknown
#8, #10	IEPA	9/25/80	Memo to Division File from T. Powell (southern region) dated September 26, 1980
<p><b>Nature and Extent of Contamination:</b></p> <p>VOCs were detected in only one sediment sample at a concentration of 0.12 mg/kg. BNAs were detected at concentrations ranging from 1.34 to 12 mg/kg for 3 of 4 sediment samples analyzed. Pesticides were detected at concentrations ranging from 0.003 to 0.975 mg/kg for 2 of 4 sediment samples analyzed. PCBs were detected at concentrations ranging from 2.8 to 59.93 mg/kg for 2 of 7 sediment samples analyzed. Metals concentrations, particularly Cd, Cr, and Cu, were elevated throughout this segment. Sample X107, the northernmost sediment sample collected in CS-E, contained significantly higher concentrations of organic and inorganic contaminants than did the other samples from this segment.</p> <p>No organics were detected in any surface water samples collected. Copper was most notably elevated within the surface water samples collected.</p> <p>The extent of contamination is fairly well defined for segment CS-E. Contamination depth information is lacking for the segment.</p>			
<p><b>Containment and Integrity (if known):</b></p> <p>There is no known containment in place in CS-E. A portion of the creek in this segment passes through a corrugated pipe below grade. Access to this creek segment is unrestricted.</p>			
<p><b>Other Comments:</b> See "Site Description" for Creek Segment C for more site details.</p>			

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SUBSURFACE SOIL SAMPLES  
Volatile Organic Compounds (µg/kg)  
Collected by Ecology & Environment, Inc. (12/86)

recycled paper

VOC	Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum Concentration
	Sample Depth (ft)	0-10	5-15	NA	Detected
	Date Collected	12/15/86	12/15/86	12/16/86	
				BLANK	
Chloromethane		ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND
Vinyl chloride		ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND
Methylene chloride		4 BJ	6 J	4 BJ	6 J
Acetone		45 B	11 BJ	23 B	45 B
Carbon Disulfide		ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND
trans-1,2-Dichloroethane		ND	ND	ND	ND
Chloroform		ND	ND	ND	ND
1,2-Dichloroethane		ND	ND	ND	ND
2-Butanone (MEK)		ND	14 J	ND	14 J
1,1,1-Trichloroethane		ND	ND	ND	ND
Carbon Tetrachloride		ND	ND	ND	ND
Vinyl Acetate		ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND
Trichloroethene		ND	ND	ND	ND
Dibromochloromethane		ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND
Benzene		ND	ND	ND	ND
cis-1,3-Dichloropropene		ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND
Bromoform		ND	ND	ND	ND
2-Methyl-2-pentanone		4 J	ND	ND	4 J
2-Hexanone		ND	ND	ND	ND
Tetrachloroethane		ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND
Toluene		ND	ND	ND	ND
Chlorobenzene		ND	ND	ND	ND
Ethylbenzene		ND	ND	ND	ND
Styrene		ND	ND	ND	ND
Total Xylenes		ND	ND	ND	ND

µg/kg - Micrograms per kilogram.  
B - Compound detected in blank sample  
J - Estimated value  
ND - Not detected



**SAUGET Analytical Data**  
**Site N**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (12/86)**

Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
Sample Depth (ft)	0-10	5-15	NA	Concentration
Date Collected	12/15/86	12/15/86	12/16/86	Detected
<b>BNAs</b>			BLANK	
Phenol	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.

J - Estimated value

ND - Not detected.

**SAUGET Analytical Data**  
**Site N**

**SUBSURFACE SOIL SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (12/86)**

recycled paper

Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
Sample Depth (ft)	0-10	5-15	NA	Concentration
Date Collected	12/15/86	12/15/86	12/16/86	Detected
<b>PAHs</b>			BLANK	
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	434	203 J	ND	434
Anthracene	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	ND
Fluoranthene	684	253 J	ND	684
Pyrene	553	215 J	ND	553
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	263 J	ND	ND	263 J
bis(2-ethylhexyl)phthalate	934	1266	ND	1266
Chrysene	276 J	ND	ND	276 J
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	289 J	152 J	ND	289 J
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	211 J	ND	ND	211 J
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site N**

**SUBSURFACE SOIL SAMPLES**

Pesticides/PCBs (µg/kg)

Collected by Ecology & Environment, Inc. (12/86)

	Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
	Sample Depth (ft)	0-10	5-15	NA	Concentration
	Date Collected	12/15/86	12/15/86	12/16/86	Detected
Pesticides/PCBs				BLANK	
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

µg/kg - Micrograms per kilogram

ND - Not detected

**SAUGET Analytical Data**  
**Site N**

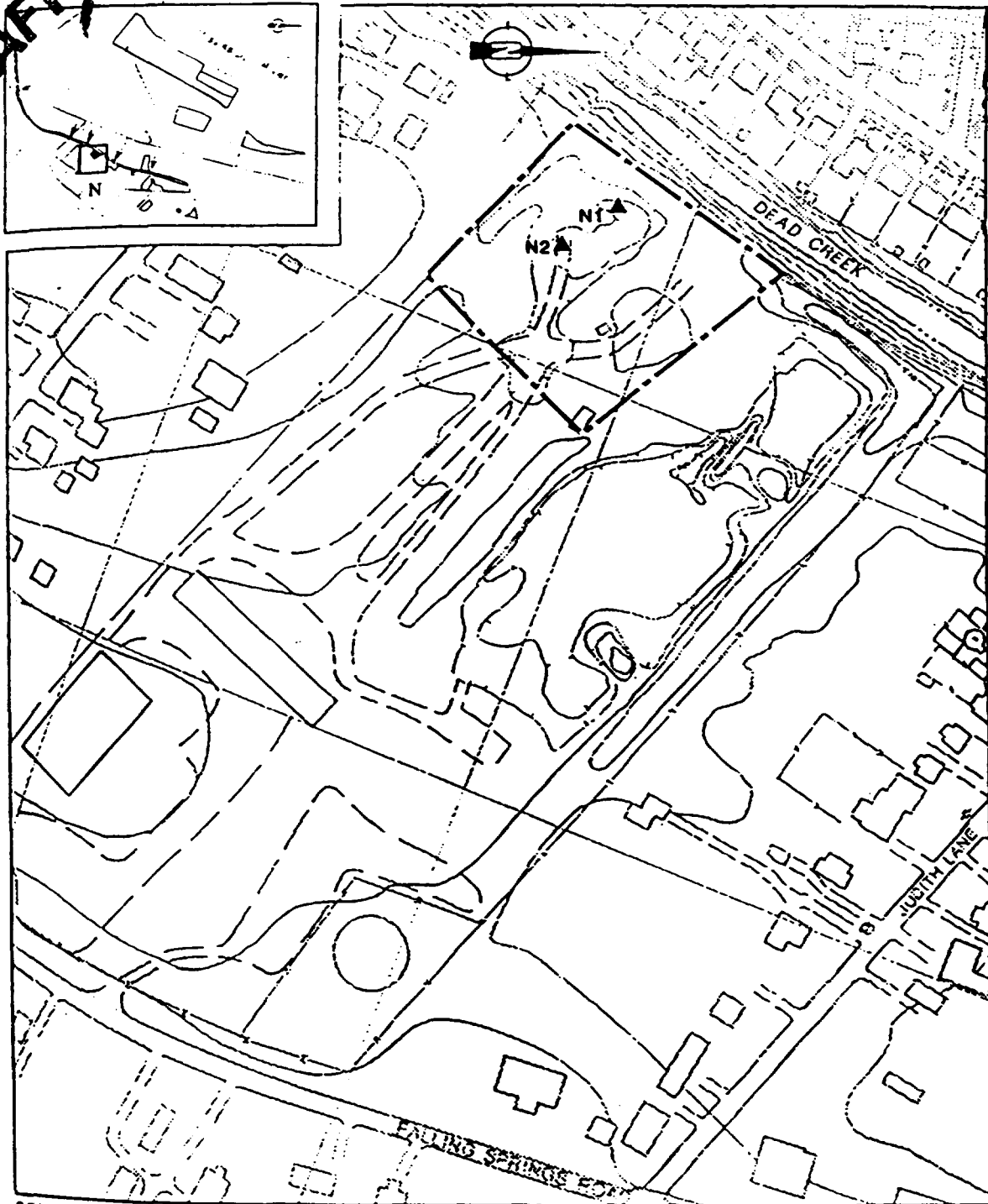
**SUBSURFACE SOIL SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Ecology & Environment, Inc. (12/86)**

Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
Sample Depth (ft)	0-10	5-15	NA	Concentration
Date Collected	12/15/86	12/15/86	12/16/86	Detected
<b>Total Metals</b>			BLANK	
Aluminum	4763	1924	9385	9385
Antimony	ND	ND	ND	ND
Arsenic	3 *	2 *	6 *	6 *
Barium	130	46	358	358
Beryllium	ND	ND	ND	ND
Boron	ND	ND	ND	ND
Cadmium	ND	ND	2	2
Chromium	8	5	13	13
Cobalt	4	3	7	7
Copper	10	5	33	33
Iron	820	6253	16026	16026
Lead	24	34 *	78 *	78 *
Manganese	164	82	429	429
Mercury	ND	9	ND	9
Nickel	11	ND	18	18
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Thallium	ND	ND	ND	ND
Tin	ND	ND	ND	ND
Vanadium	ND	ND	21	21
Zinc	42	55	182	182
Cyanide	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

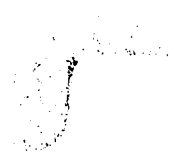
\* - Duplicate analysis not within control limits



SOURCE: Ecology and Environment, Inc., 1988.



FIGURE 3-11 BORING LOCATIONS AT SITE N



**CS-C Data**

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**SAUGET Analytical Data**  
**Dead Creek - Segment C**  
**SEDIMENT SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum Concentration
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Detected
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/5/86	BLANK
VOC						
Chloromethane	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Methylene chloride	19000 B	18000 B	27000 B	17000 B	15000 B	27000 B
Acetone	6400 B	9900 B	15000 B	7300 B	6200 B	15000 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	11000 B	14000 B	22000 B	12000 B	11000 B	22000 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	1200 J	ND	ND	ND	1200 J
2-Hexanone	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram  
B - Compound detected in blank  
J - Estimated value  
ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**SEDIMENT SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>BNAs</b>						
Phenol	ND	ND	580 J	81 J	ND	580 J
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	110 J	ND	ND	ND	110 J
1,4-Dichlorobenzene	ND	690 J	ND	ND	ND	690 J
Benzyl Alcohol	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	260 J	130 J	64 J	ND	260 J
Naphthalene	ND	330 J	100 J	ND	ND	330 J
4-Chloroaniline	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	100 J	ND	ND	ND	100 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	130 J	ND	ND	ND	130 J

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected



**SAUGET Analytical Data**  
Dead Creek - Segment C

**SEDIMENT SAMPLES**

Base Neutrals/Acids (µg/kg)  
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum Concentration
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Detected
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	
<b>BNAs</b>						
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND
Fluorene	ND	370 J	ND	ND	ND	370 J
4-Nitroaniline	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND
Phenanthrene	280 J	810 J	ND	220 J	ND	810 J
Anthracene	ND	500 J	ND	ND	ND	500
Di-n-butyl phthalate	ND	ND	ND	120 J	ND	120 J
Fluoranthene	ND	4600	ND	370 J	ND	4600
Pyrene	440 J	4500	ND	290 J	ND	4500
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	380 J	3300	550 J	230 J	ND	3300
bis(2-ethylhexyl)phthalate	740 J	ND	660 J	ND	ND	740 J
Chrysene	550 J	4400	1000	300 J	ND	4400
Di-n-octyl phthalate	ND	190 J	ND	ND	ND	190 J
Benzo(b)fluoranthene	ND	7500	2000	1000	ND	7500
Benzo(k)fluoranthene	920	660 J	ND	ND	ND	920
Benzo (a)pyrene	480 J	4500 J	940	350 J	ND	4500 J
Indeno(1,2,3-cd)pyrene	580 J	4300	1700	530 J	ND	4300
Benzo(g,h,i)perylene	ND	1500 J	640 J	110 J	ND	1500 J
Dibenz(a,h)anthracene	550 J	4000	1700	470 J	ND	4000

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**SEDIMENT SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>Total Metals</b>						
<b>Aluminum</b>	12600	7530	8450	12600	11800	12600
<b>Antimony</b>	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>	5.1 R	9 R	33 R	30 R	5.8 R	33 R
<b>Barium</b>	376	570	1700	1010	362	1700
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	17	34	27	42	2.5	42
<b>Chromium</b>	41	60	54	68	15	68
<b>Cobalt</b>	7.5	10	6.6	7.2	5.8	10
<b>Copper</b>	580 *	5910 *	6640 *	2440 *	35 *	6640 *
<b>Iron</b>	18400	18000	35800	50900	16600	50900
<b>Lead</b>	487	593	975	661	47	975
<b>Manganese</b>	18400	98	161	161	412	18400
<b>Mercury</b>	0.71	0.95	1.64	2.81	ND	467
<b>Nickel</b>	177	838 R*	1290 R*	748 R*	18 R*	1290 R*
<b>Selenium</b>	0.71	ND	ND	2.5	ND	2.5
<b>Silver</b>	116 R*	ND	ND	ND	ND	116 R*
<b>Thallium</b>	ND	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	32	22	27	36	27	36
<b>Zinc</b>	1370	15600	6880	6430	197	15600
<b>Cyanide</b>	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

NA - Not applicable

R - Spike sample recovery not within control limits

\* - Duplicate analysis not within control limits.

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**SEDIMENT SAMPLES**  
**Pesticides/PCBs (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

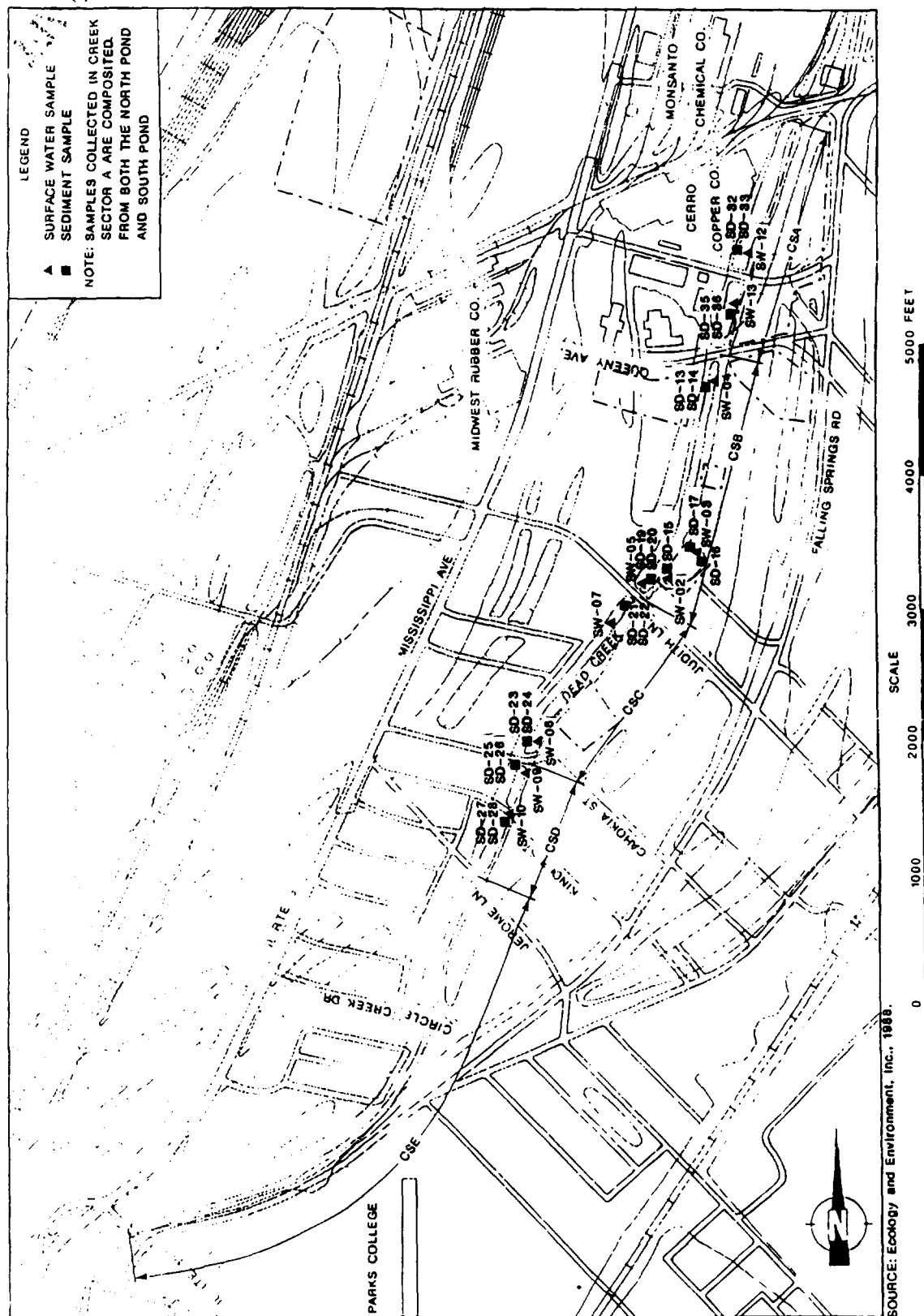
Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>Pesticides/PCBs</b>						
Alpha-BHC	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	8700	ND	ND	ND	8700
Aroclor-1254	ND	9300	11000	1600 J	ND	11000
Aroclor-1260	ND	5000 J	7800 J	ND	ND	7800 J

µg/kg - Micrograms per kilogram

J - Estimated value

NA - Not applicable

ND - Not detected



**FIGURE 3-5 SURFACE WATER AND SEDIMENT  
SAMPLING LOCATIONS IN DEAD  
CREEK AND SITE M**

## SAUGET Analytical Data

Dead Creek - Sector C

**SURFACE WATER SAMPLES**  
**Volatile Organic Compounds (µg/L)**  
 Collected by Ecology & Environment, Inc. (11/86)

recycled paper

Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/5/86	Concentration
VOC			BLANK	Detected
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	3 BJ	6 B	6 B	6 B
Acetone	13 B	13 B	12 B	13 B
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	27	27
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

µg/L - Micrograms per liter.

B - Compound detected in blank

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

Dead Creek - Sector C

## SURFACE WATER SAMPLES

Base Neutrals/Acids (µg/L)

Collected by Ecology &amp; Environment, Inc. (11/86)

Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	Concentration
<b>BNAs</b>			BLANK	<b>Detected</b>
Phenol	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detect

**SAUGET Analytical Data**  
**Dead Creek - Sector C**

**SURFACE WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by Ecology & Environment, Inc. (11/86)**

recycled paper

Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	Concentration
<b>BNAs</b>			<b>BLANK</b>	<b>Detected</b>
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	1 J	ND	ND	1
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Di-n-butyl phthalate	19 B	19 B	15 B	19
Fluoranthene	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Sector C**

**SURFACE WATER SAMPLES**  
**Pesticides/PCBs (µg/L)**  
**Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
<b>Pesticides/PCBs</b>				<b>BLANK</b>	<b>Detected</b>
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

µg/L - Micrograms per liter.

ND - Not detected



**SAUGET Analytical Data**  
**Dead Creek - Sector C**

**SURFACE WATER SAMPLES**  
**Total Metals ( $\mu\text{g/L}$ )**  
**Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Total Metals					Detected
Aluminum		ND	767	ND	767
Antimony		ND	ND	ND	ND
Arsenic		ND	ND	ND	ND
Barium		ND	ND	ND	ND
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		ND	ND	ND	ND
Chromium		ND	ND	ND	ND
Cobalt		ND	ND	ND	ND
Copper		226	84	ND	226
Iron		528	2790	255	2790
Lead		710	30	ND	710
Manganese		141	234	ND	234
Mercury		1.9	0.2	ND	1.9
Nickel		83	ND	ND	83
Selenium		ND	ND	ND	ND
Silver		ND	ND	ND	ND
Thallium		ND	ND	ND	ND
Tin		ND	40	ND	40
Vanadium		ND	ND	ND	ND
Zinc		537	247	ND	537
Cyanide		ND	ND	ND	ND

$\mu\text{g/L}$  - Micrograms per liter.

ND - Not detected

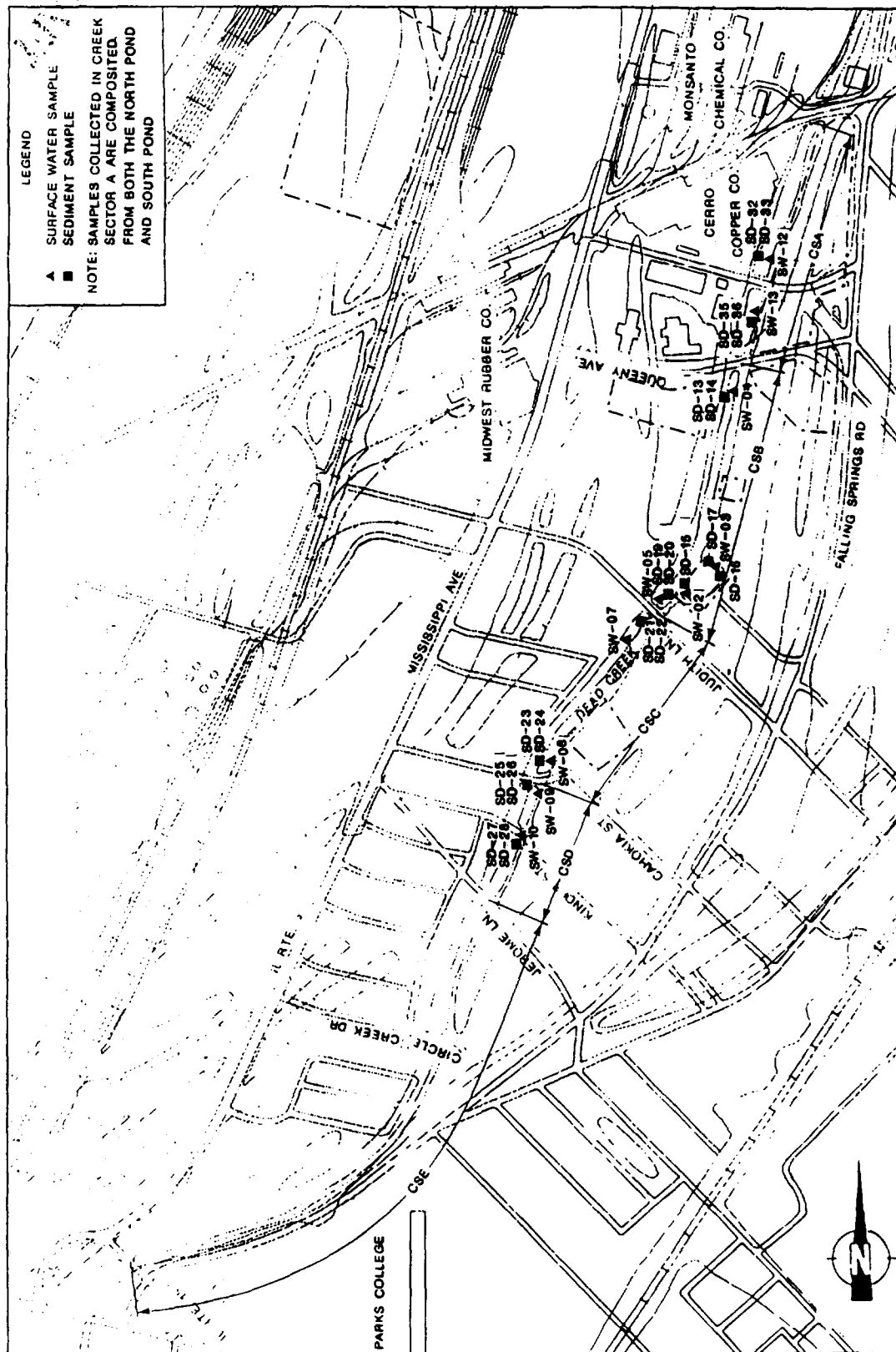


FIGURE 3-5 SURFACE WATER AND SEDIMENT  
SAMPLING LOCATIONS IN DEAD  
CREEK AND SITE M

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**SEDIMENT AND SOIL SAMPLES (mg/kg)**

**Collected by IEPA (11/31/80)**

Parameter	Sample Number	9	28	Maximum
	Sample Location	25 ft South Judith Lane	16 yds. North of Cahokia St.	Concentration
	Sample Type	Soil - 6 in depth	Sediment	Detected
Barium		1300	4700	4700
Copper		15000	17200	17200
Lead		800	1300	1300
Nickel		2000	2300	2300
Phosphorous		NA	NA	ND
Zinc		12000	21000	21000
PCB's (ug/kg)		120 * 28	120 * 28	120
Chlordane (ug/kg)		ND * 50	ND * 50	ND
Alkylbenzenes		ND * 10-100	ND * 10-100	ND
Biphenyl		ND	ND	ND
Toluene		ND * 118	ND * 118	ND
Xylene		ND * 3	ND * 3	ND
Dichlorobenzene		ND * 5	ND * 5	ND
Trichlorobenzene		ND * 1-10	ND * 1-10	ND
Chloronitrobenzene		ND * 10-100	ND * 10-100	ND
Dichlorophenol		ND * 500	ND * 500	ND

mg/kg - Milligrams per kilogram.

NA - parameter not analyzed

ND - below detection limits

\* Maximum allowable concentration in units of mg/kg unless noted as otherwise

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**WATER SAMPLES (mg/L unless otherwise noted)**

**Collected by IEPA (11/31/80)**

Parameter	Sample Number	30	Maximum
	Sample Location	45 yds. North of Cahokia St	Concentration
	Sample Type	Water	Detected
Barium		0.12	0.12
Copper		0.26	0.26
Lead		< 0.05	ND
Nickel		0.19	0.19
Phosphorous		0.24	0.24
Zinc		1 * 132	1
PCB's (µg/L)		ND * 28	ND
Chlordane (µg/L)		ND * 50	ND
Alkylbenzenes		ND * 10-100	ND
Biphenyl		ND --	ND
Toluene		ND * 118	ND
Xylene		ND * 3	ND
Dichlorobenzene		ND * 5	ND
Trichlorobenzene		ND * 1-10	ND
Chloronitrobenzene		ND * 10-100	ND
Dichlorophenol		ND * 500	ND

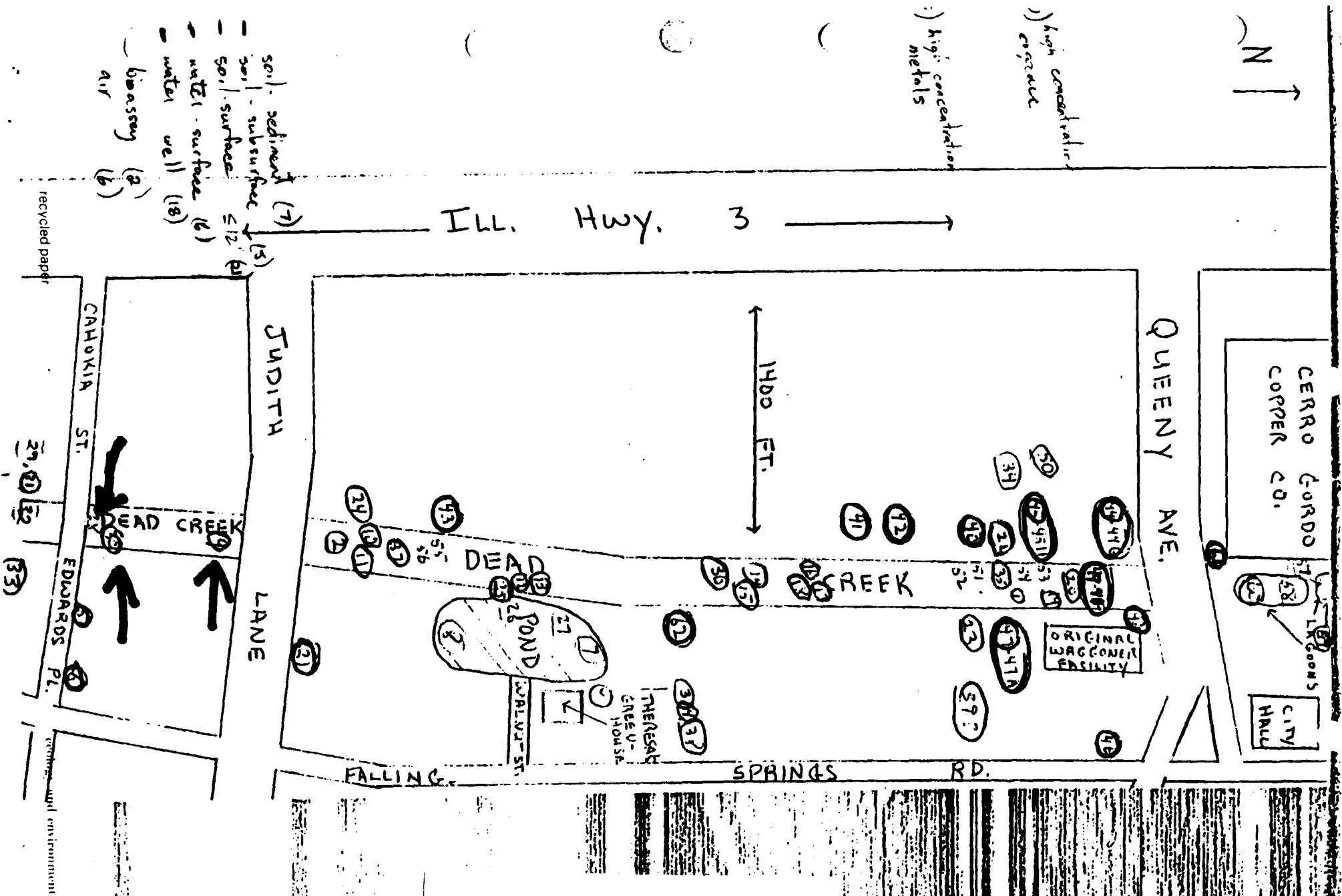
mg/L - Milligrams per liter

NA - parameter not analyzed

ND - below detection limits

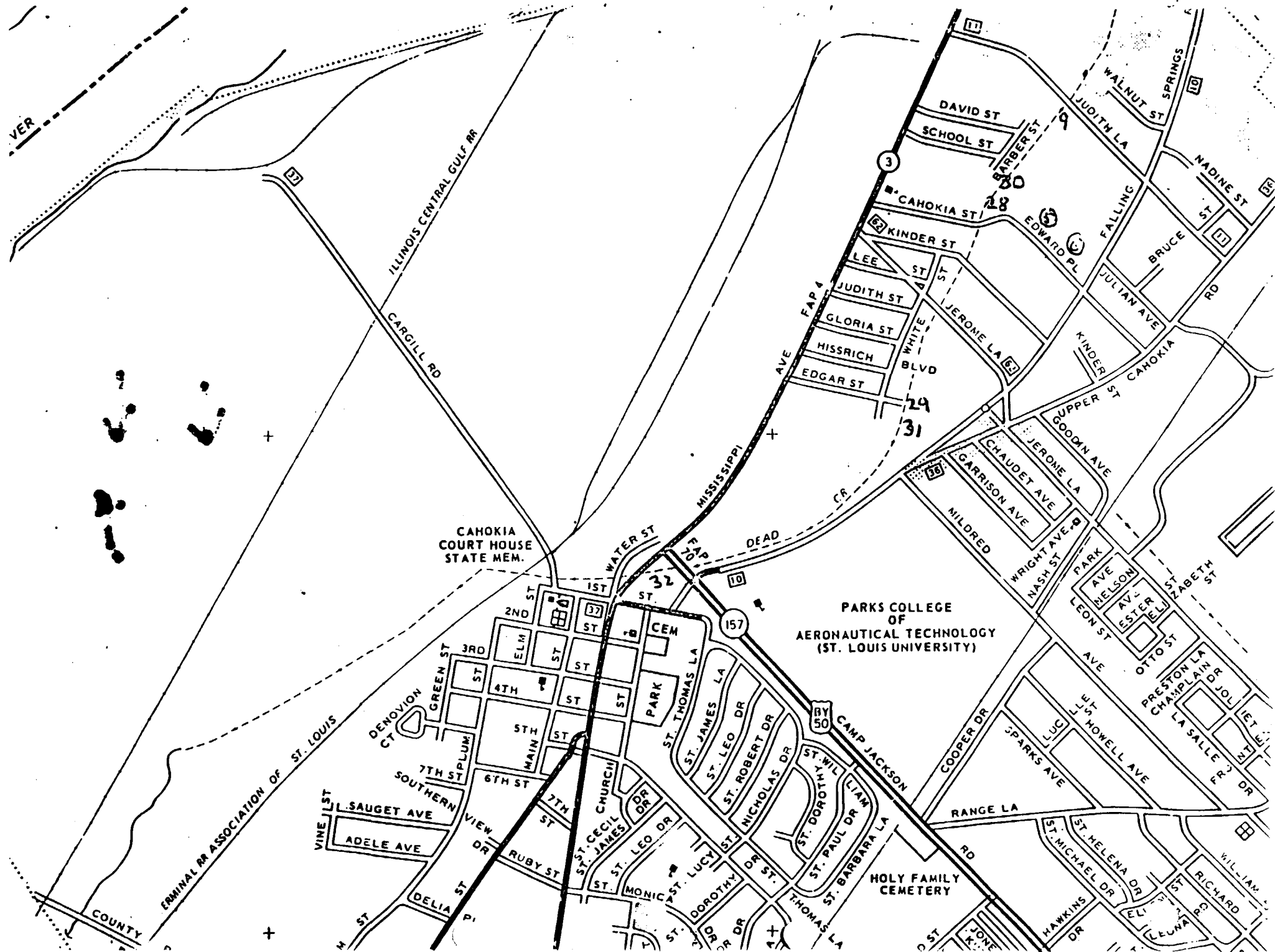
\* Maximum allowable concentration in units of mg/L unless noted as otherwise

µg/L - Micrograms per liter



LOCATION MAP - SAMPLES 9, 28, AND 30

Source: "Summary of the Phase II Investigation of Dead Creek", Author unknown, date unknown



**SAUGET Analytical Data**  
**Sauget Sites Area 1**

**SOIL SAMPLES (µg/kg unless otherwise noted)**

**Collected by IEPA**

Sample Number	X104	X101	X102	X103	Maximum
Property Owner	H KEARBY	V SHEPARD	W. SCHMIDT	J BALLETT	Concentration
Date Collected	3/91	3/91	3/91	3/91	Detected
<b>VOLATILES</b>					
Chlorobenzene	ND	ND	ND	ND	ND
<b>SEMIVOLATILES</b>					
Pyrene	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
<b>PESTICIDES/PCB's</b>					
4,4'-DDE	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND
Gamma-Chlorodane	200	706	ND	ND	706
Aroclor-1254	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND
<b>INORGANICS (mg/kg)</b>					
Arsenic	ND	ND	ND	ND	ND
Barium	ND	ND	ND	ND	ND
Cadmium	0.8 B	4.9	ND	8.5	8.5
Calcium	ND	ND	ND	ND	ND
Chromium	19.5	31.9	26.6	38.7	38.7
Cobalt	ND	ND	ND	ND	ND
Copper	18.7	110	125	167	167
Lead	51	ND	276	202	276
Magnesium	ND	ND	ND	ND	ND
Mercury	ND	0.07	0.07	0.2	0.2
Nickel	ND	ND	ND	ND	ND
Zinc	161	575	ND	738	738

µg/kg - Micrograms per kilogram.

mg/kg - Milligrams per kilogram.

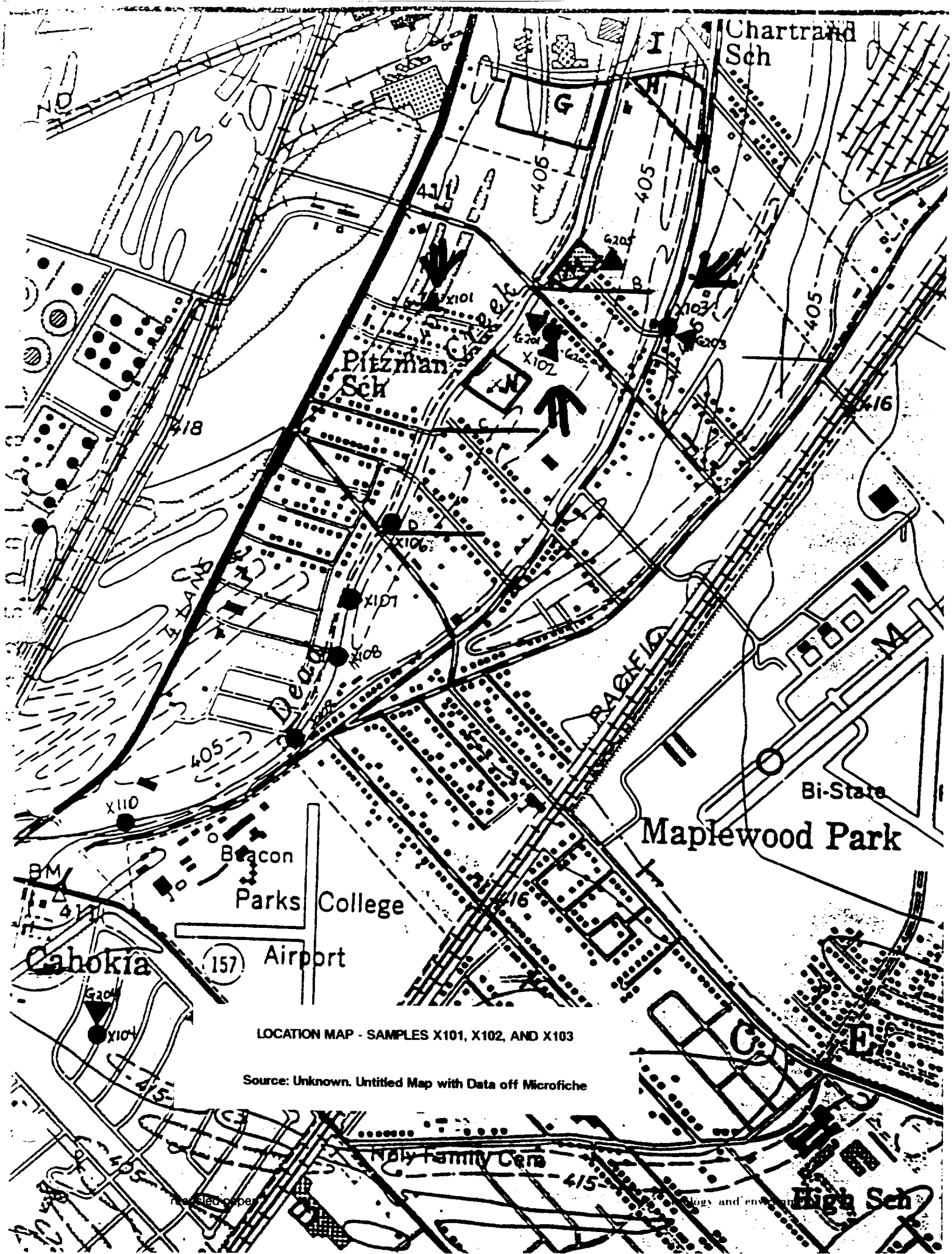
B - Estimated value The value is less than the CRDL, but greater than the instrument detection limit.

ND - Not detected









LOCATION MAP - SAMPLES X101, X102, AND X103

Source: Unknown. Untitled Map with Data off Microfiche

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**SEDIMENT SAMPLES**  
**Metals (mg/kg)**  
**Collected by IEPA (09/25/80)**

Sample Number	7	Maximum
		Concentration
<b>Metals</b>		
<b>Iron</b>	110000	110000
<b>Manganese</b>	170	170
<b>Calcium</b>	5300	5300
<b>Magnesium</b>	2000	2000
<b>Sodium</b>	1100	1100
<b>Potassium</b>	900	900
<b>Barium</b>	4700	4700
<b>Boron</b>	76	76
<b>Cadmium</b>	50	50
<b>Chromium</b>	50	50
<b>Copper</b>	17200	17200
<b>Lead</b>	1300	1300
<b>Nickel</b>	2300	2300
<b>Silver</b>	45	45
<b>Zinc</b>	21000	21000
<b>Beryllium</b>	3	3
<b>Cobalt</b>	32	32
<b>Strontium</b>	140	140
<b>Vanadium</b>	50	50
<b>Phosphorus</b>	6200	6200

mg/kg - Milligrams per kilogram

September 26, 1980

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

RECEIVED

SEP 30 1980

IEPA-DAPC-SPFLD

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

<u>Sample Number</u>	<u>Location</u>	<u>Depth of Sample</u>
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

September 26, 1980

- 6 Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond. 9 inches (composite)
- 7 Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek. 12 inches (composite)
- 8 Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek. 6 inches (composite)
- 9 Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.
- 10 Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.
- 11 Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge. 6 inches (composite)
- 12 Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried). 12 inches (composite)

cc: Southern Region  
Bill Child  
Jim Kelty ✓  
Attorney General

## SAUGET Analytical Data

Dead Creek - Segment C

 SURFACE WATER SAMPLES  
 Volatile Organic Compounds (µg/L)  
 Collected by IEPA

Sample Number	S504	Maximum
Date Collected	09/23/93	Concentration
VOCS		Detected
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	ND	ND
Acetone	ND	ND
Carbon Disulfide	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
trans-1,2-Dichloroethene	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
2-Butanone (MEK)	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon Tetrachloride	ND	ND
Vinyl Acetate	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
trans-1,3-Dichloropropene	ND	ND
Trichloroethene	ND	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
cis-1,3-Dichloropropene	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND
Bromoform	ND	ND
4-Methyl-2-pentanone	ND	ND
2-Hexanone	ND	ND
Tetrachloroethene	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND
Tolene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
Styrene	ND	ND
Total Xylenes	ND	ND

µg/L - Micrograms per liter.

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**SURFACE WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by IEPA**

Sample Number	S504	Maximum
Date Collected	09/23/93	Concentration
BNAs		Detected
Phenol	ND	ND
bis(2-Chloroethyl)ether	ND	ND
2-Chlorophenol	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
Benzyl Alcohol	NA	NA
1,2-Dichlorobenzene	ND	ND
2-Methylphenol	ND	ND
bis(2-Chloroisopropyl)ether	NA	NA
4-Methylphenol	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND
Hexachloroethane	ND	ND
Nitrobenzene	ND	ND
Isophorone	ND	ND
2-Nitrophenol	ND	ND
2,4-Dimethylphenol	ND	ND
Benzoic Acid	NA	NA
bis-(2-Chloroethoxy)methane	ND	ND
2,4-Dichlorophenol	ND	ND
1,2,4-Trichlorobenzene	ND	ND
Naphthalene	ND	ND
4-Chloroaniline	ND	ND
Hexachlorobutadiene	ND	ND
4-Chloro-3-methylphenol	ND	ND
2-Methylnaphthalene	ND	ND
Hexachlorocyclopentadiene	ND	ND
2,4,6-Trichlorophenol	ND	ND
2,4,5-Trichlorophenol	ND	ND
2-Chloronaphthalene	ND	ND
2-Nitroaniline	ND	ND
Dimethylphthalate	ND	ND
Acenaphthylene	ND	ND
3-Nitroaniline	ND	ND
Acenaphthene	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank sample

J - Estimated value

ND - Not Detected

NA - Not Analyzed

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**SURFACE WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by IEPA**

Sample Number	S504	Maximum
Date Collected	09/23/93	Concentration
Detected		
2,4-Dinitrophenol	ND	ND
4-Nitrophenol	ND	ND
Dibenzofuran	ND	ND
2,4-Dinitrotoluene	ND	ND
2,6-Dinitrotoluene	NA	NA
Diethylphthalate	ND	ND
4-Chlorophenyl-Phenylether	ND	ND
Fluorene	ND	ND
4-Nitroaniline	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND
N-Nitrosodiphenylamine	ND	ND
4-Bromophenyl-phenylether	ND	ND
Hexachlorobenzene	ND	ND
Pentachlorophenol	ND	ND
Phenanthrene	ND	ND
Carbazole	ND	ND
Anthracene	ND	ND
Di-n-butyl phthalate	5 JB	5 JB
Fluoranthene	ND	ND
Pyrene	ND	ND
Butyl Benzyl phthalate	ND	ND
3,3'-Dichlorobenzidine	ND	ND
Benzo (a)anthracene	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND
Chrysene	ND	ND
Dioctyl phthalate	ND	ND
Benzo(b)fluoranthene	ND	ND
Benzo(k)fluoranthene	ND	ND
Benzo (a)pyrene	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND
Benzo(g,h,i)perylene	ND	ND
Dibenz(a,h)anthracene	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank sample

J - Estimated value

ND - Not Detected

NA - Not Analyzed



**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**SURFACE WATER SAMPLES**

**Total Metals (µg/L)**

**Collected by IEPA**

	Sample Number	S504	Maximum
	Date Collected	09/23/93	Concentration
Total Metals			Detected
Aluminum		733	733
Antimony		ND	ND
Arsenic		3.8 BNW	3.8 BNW
Barium		355	355
Beryllium		ND	ND
Cadmium		ND	ND
Calcium		153000	153000
Chromium		ND	ND
Cobalt		ND	ND
Copper		18.5 B	18.5 B
Iron		1460	1460
Lead		16 *S	16 *S
Magnesium		32800	32800
Manganese		97.1	97.1
Mercury		ND	ND
Nickel		15.9 B	15.9 B
Potassium		5490	5490
Selenium		ND	ND
Silver		ND	ND
Sodium		22000	22000
Thallium		ND	ND
Vanadium		ND	ND
Zinc		286	286
Cyanide		13.5 B	13.5 B

µg/L - Micrograms per liter

B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.

N - Laboratory spike recoveries were outside QC protocols.

S - Analysis performed using the method of standard additions.

W - Laboratory post-digestion spike for furnace AA analysis exceeds QC limits.

\* - Duplicate analysis not within control limits.

ND - Not Detected

NA - Not Analyzed

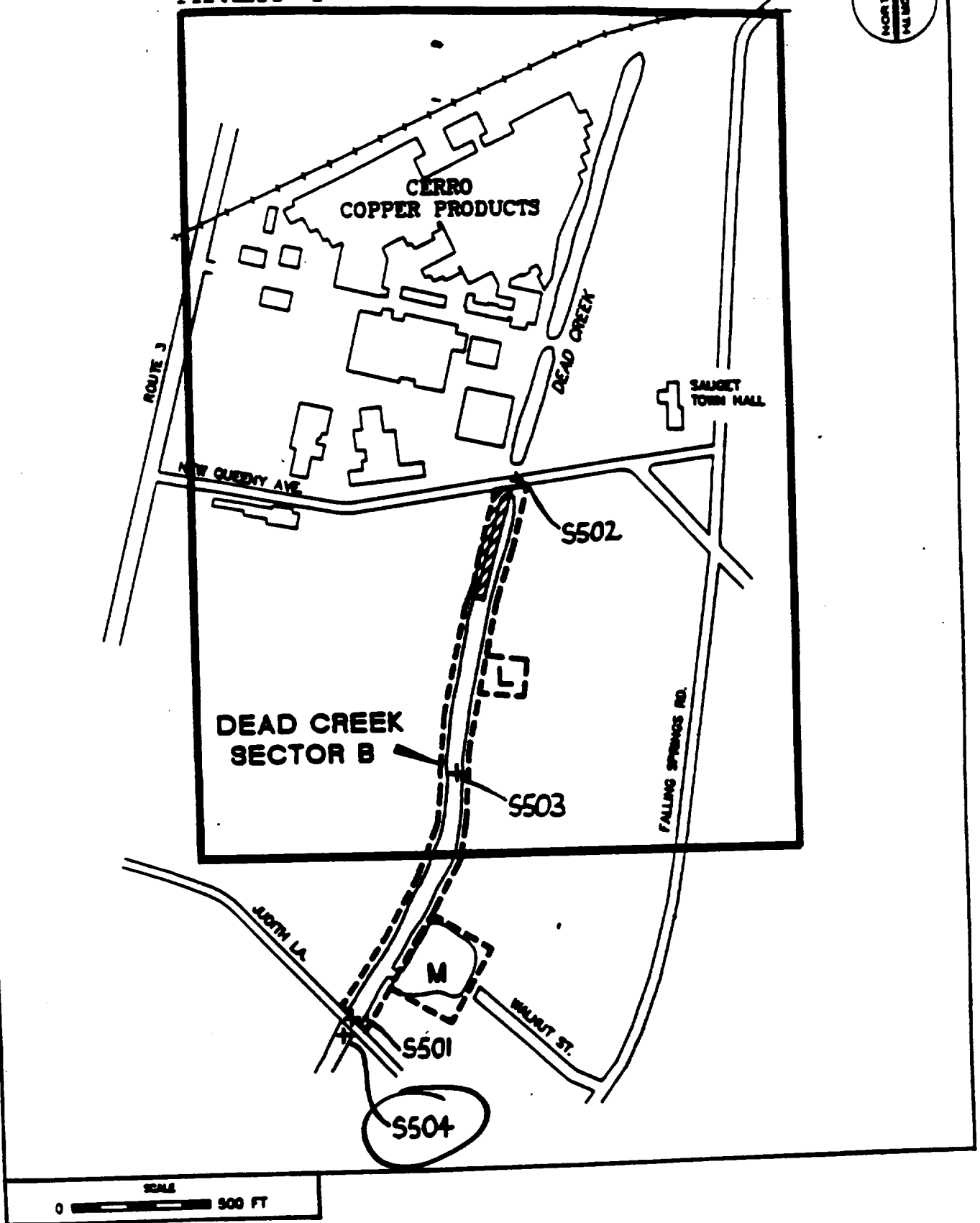
**SAUGET Analytical Data**  
Dead Creek - Segment C

**SURFACE WATER SAMPLES**  
Pesticides/PCBs/Herbicides (µg/L)  
Collected by IEPA

Pesticides/PCBs	Sample Number Date Collected	S504 09/23/93	Maximum Concentration Detected
Alpha-BHC		ND	ND
Beta-BHC		ND	ND
Delta-BHC		ND	ND
Gamma-BHC (Lindane)		ND	ND
Heptachlor		ND	ND
Aldrin		ND	ND
Heptachlor Epoxide		ND	ND
Endosulfan I		ND	ND
Dieldrin		ND	ND
4,4'-DDE		ND	ND
Endrin		ND	ND
Endosulfan II		ND	ND
4,4'-DDD		ND	ND
Endosulfan sulfate		ND	ND
4,4'-DDT		ND	ND
Methoxychlor		ND	ND
Endrin Ketone		ND	ND
Chlordane		ND	ND
Toxaphene		ND	ND
Aroclor-1016		ND	ND
Aroclor-1221		ND	ND
Aroclor-1232		ND	ND
Aroclor-1242		ND	ND
Aroclor-1248		ND	ND
Aroclor-1254		ND	ND
Aroclor-1260		ND	ND
Herbicides			
2,4-D		NA	NA
Silvex		NA	NA

µg/L - Micrograms per liter  
NA - Not analyzed  
ND - Not detected

# AREA I



- Location Map - Sample S504

Source: Ltr. to A. Altur (USEPA) from P. Takacs (IEPA) dated Nov. 2, 1993

recycled paper

ecology and environment

**SAUGET Analytical Data**  
**Dead Creek - Segment C**

**WATER SAMPLES**  
**Metals (mg/l)**  
**Collected by IEPA (09/25/80)**

recycled paper

Sample Number	9	Maximum
		Concentration
<b>Metals</b>		
Arsenic	0.008	0.008
Selenium	ND	ND
Iron	0.66	0.66
Manganese	0.03	0.03
Calcium	34	34
Magnesium	3	3
Sodium	3	3
Potassium	6.6	6.6
Barium	0.12	0.12
Boron	0.06	0.06
Cadmium	ND	ND
Chromium	ND	ND
Copper	0.26	0.26
Lead	ND	ND
Nickel	0.05	0.05
Silver	ND	ND
Zinc	0.24	0.24
Beryllium	ND	ND
Cobalt	ND	ND
Strontium	0.08	0.08
Vanadium	ND	ND
Phosphorus	0.19	0.19

mg/l - Milligrams per liter

ND - Not detected

water and environment



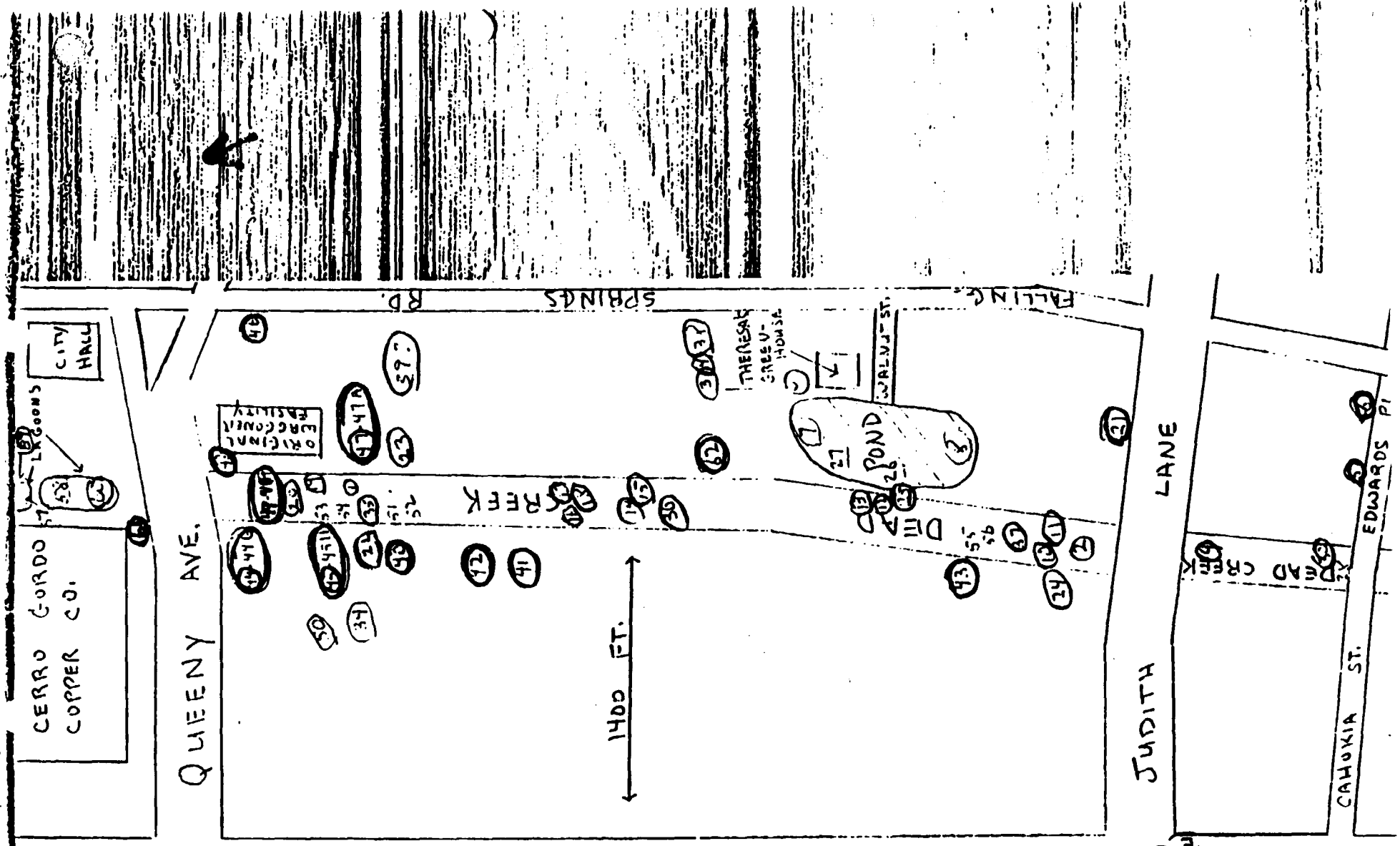
N ↑

1) iron concentration  
excess

2) high concentration  
metals

ILL. Hwy. 3

- soil - sediment (7)
- soil - subsurface (13)
- soil - surface (12, 6)
- water - surface (16)
- water - well (18)
- bioassay (2)
- air (6)



CS-D Data

)

)

**SAUGET Analytical Data**  
**Dead Creek - Segment D**  
**SEDIMENT SAMPLES**  
**Volatile Organic Compounds (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum Concentration
Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Detected
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
VOC					BLANK	
Chloromethane	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Methylene chloride	23000 B	19000 B	43000 B	20000 B	15000 B	43000 B
Acetone	18000 B	9600 B	36000 B	7400 B	6200 B	36000 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	21000 B	16000 B	35000 B	15000 B	11000 B	35000 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
3-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND
5-Methyl-2-pentanone	ND	1200 J	ND	ND	ND	1200 J
2-Hexanone	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram  
 B - Compound detected in blank  
 J - Estimated value  
 ND - Not detected



**SAUGET Analytical Data**  
**Dead Creek - Segment D**

**SEDIMENT SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>BNAs</b>					<b>BLANK</b>	
Phenol	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment D**

**SEDIMENT SAMPLES**  
**Base Neutrals/Acids (µg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

recycled paper

Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>BNAs</b>					<b>BLANK</b>	
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	130 J	79 J	ND	ND	ND	130 J
Fluoranthene	ND	130 J	ND	ND	ND	130 J
Pyrene	ND	120 J	ND	ND	ND	120 J
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	72 J	ND	ND	ND	72 J
Chrysene	ND	83 J	ND	ND	ND	83 J
Di-n-octyl phthalate	ND	ND	170 J	ND	ND	170 J
Benzo(b)fluoranthene	ND	200 J	500 J	ND	ND	500 J
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	86 J	240 J	ND	ND	240 J
Benzo(1,2,3-cd)pyrene	ND	100 J	310 J	ND	ND	310 J
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND
Benzo(a,h)anthracene	ND	91 J	360 J	ND	ND	360 J

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Dead Creek - Segment D**

**SEDIMENT SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by Ecology & Environment, Inc. (11/86)**

Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
<b>Total Metals</b>					<b>BLANK</b>	
<b>Aluminum</b>	11250	12500	6400	5870	11800	12500
<b>Antimony</b>	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>	3.2 R*	7.8 *	4.7 R*	5.1 R	5.6 R	7.8 *
<b>Barium</b>	239	622	214	199	362	622
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	12	42	23	5.6	2.5	42
<b>Chromium</b>	33	48	34	13	15	48
<b>Cobalt</b>	6	12	ND	6.4	5.8	12
<b>Copper</b>	378 *	1630 *	1320 *	247 *	35 *	1630 *
<b>Iron</b>	22800	40200	31300	15000	16600	40200
<b>Lead</b>	146	480	309	44	47	480
<b>Manganese</b>	190	273	178	191	412	412
<b>Mercury</b>	1	0.89	0.34	0.18	ND	1
<b>Nickel</b>	174 R*	665 R*	537 R*	236 R*	18 R*	665 R*
<b>Selenium</b>	ND	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	37	32	ND	17	27	37
<b>Zinc</b>	1010	6590	2380	917	197	6590
<b>Cyanide</b>	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits.

\* - Duplicate analysis not within control limits.

**SAUGET Analytical Data**  
**Dead Creek - Segment D**

**SEDIMENT SAMPLES**  
**Pesticides/PCBs ( $\mu\text{g/kg}$ )**  
**Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
	Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
Pesticides/PCBs						<b>BLANK</b>	
Alpha-BHC		ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND
Endrin		580	ND	ND	ND	ND	580
Endosulfan II		ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	7500	1900	ND	7500
Aroclor-1260		ND	ND	4500	ND	ND	4500

$\mu\text{g/kg}$  - Micrograms per kilogram

NA - Not applicable

ND - Not detected

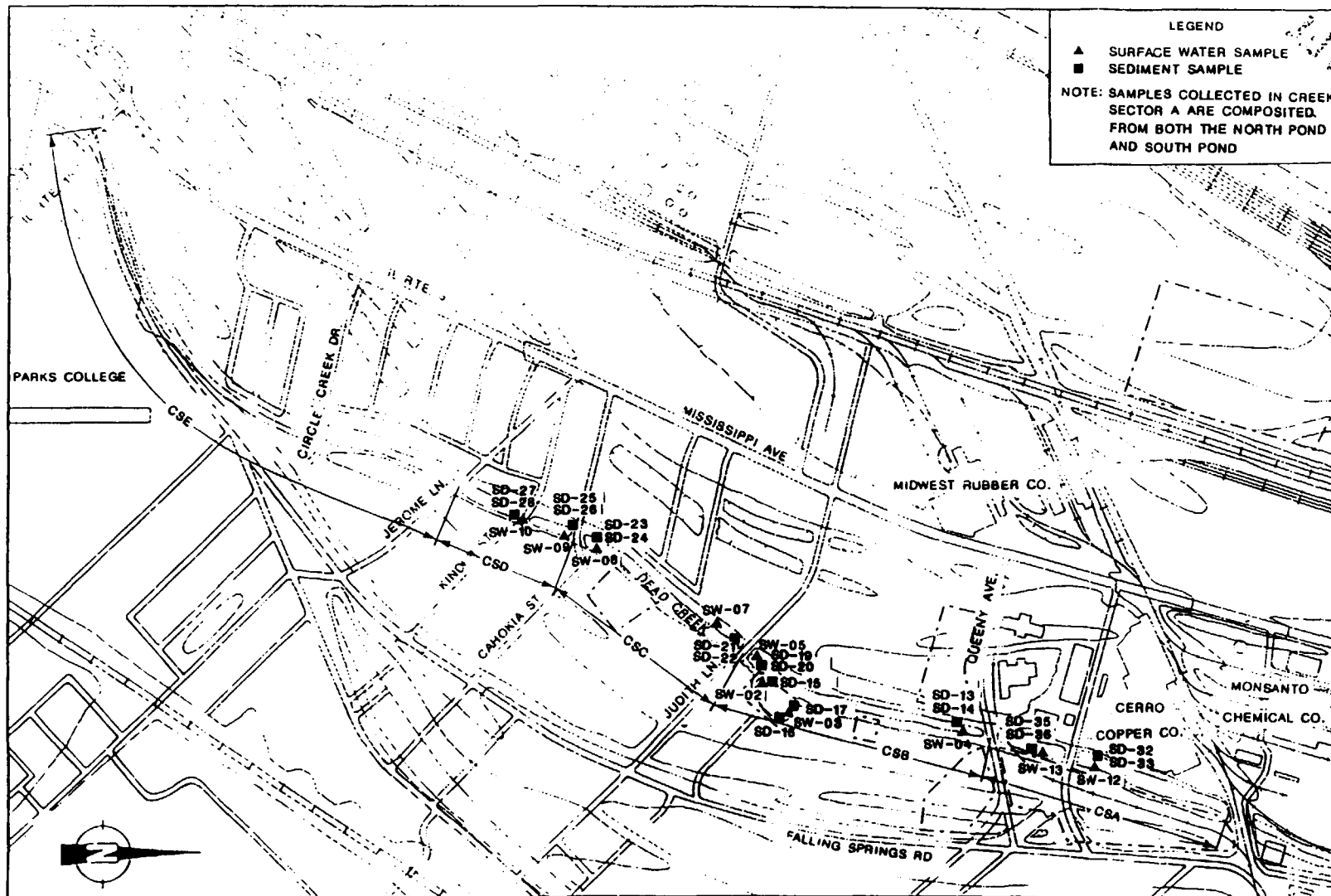


FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

## SAUGET Analytical Data

Dead Creek - Sector D

## SURFACE WATER SAMPLES

Volatile Organic Compounds ( $\mu\text{g/L}$ )

Collected by Ecology &amp; Environment, Inc. (11/86)

recycled paper

Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/5/86	Concentration
VOC			BLANK	Detected
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	5 B	7 B	6 B	7 B
Acetone	11 B	11 B	12 B	12 B
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	27	27
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
1-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

 $\mu\text{g/L}$  - Micrograms per liter.

B - Compound detected in blank

ND - Not detected

## SAUGET Analytical Data

Dead Creek - Sector D

## SURFACE WATER SAMPLES

Base Neutrals/Acids (µg/L)

Collected by Ecology &amp; Environment, Inc. (11/86)

Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	Concentration
<b>BNAs</b>			BLANK	<b>Detected</b>
Phenol	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND

µg/L - Micrograms per liter.

B - Compound detected in blank

J - Estimated value

ND - Not detected

## SAUGET Analytical Data

Dead Creek - Sector D

## SURFACE WATER SAMPLES

Base Neutrals/Acids ( $\mu\text{g/L}$ )

Collected by Ecology &amp; Environment, Inc. (11/86)

Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	Concentration
BNAs			BLANK	Detected
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Di-n-butyl phthalate	19 B	20 B	15 B	20 B
Fluoranthene	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND
Di-n-octyl phthalate	ND	1 J	ND	1 J
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

 $\mu\text{g/L}$  - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected



**SAUGET Analytical Data**  
**Dead Creek - Sector D**

**SURFACE WATER SAMPLES**  
**Pesticides/PCBs ( $\mu\text{g/L}$ )**  
**Collected by Ecology & Environment, Inc. (11/86)**

	Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Pesticides/PCBs				BLANK	Detected
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

$\mu\text{g/L}$  - Micrograms per liter.

ND - Not detected

## SAUGET Analytical Data

## Dead Creek - Sector D

## SURFACE WATER SAMPLES

Total Metals ( $\mu\text{g/L}$ )

Collected by Ecology &amp; Environment, Inc. (11/86)

	Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Total Metals				BLANK	Detected
Aluminum		5000	1190	ND	5000
Antimony		ND	ND	ND	ND
Arsenic		ND	ND	ND	ND
Barium		274	ND	ND	274
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		8.1	ND	ND	8.1
Chromium		12	ND	ND	12
Cobalt		ND	ND	ND	ND
Copper		619	57	ND	619
Iron		7470	1570	255	7470
Lead		89	36	ND	89
Manganese		196	28	ND	196
Mercury		0.26	ND	ND	0.26
Nickel		189	ND	ND	189
Selenium		ND	ND	ND	ND
Silver		ND	ND	ND	ND
Thallium		ND	ND	ND	ND
Tin		ND	ND	ND	ND
Vanadium		ND	ND	ND	ND
Zinc		1090	185	ND	1090
Cyanide		ND	ND	ND	ND

 $\mu\text{g/L}$  - Micrograms per liter.

ND - Not detected

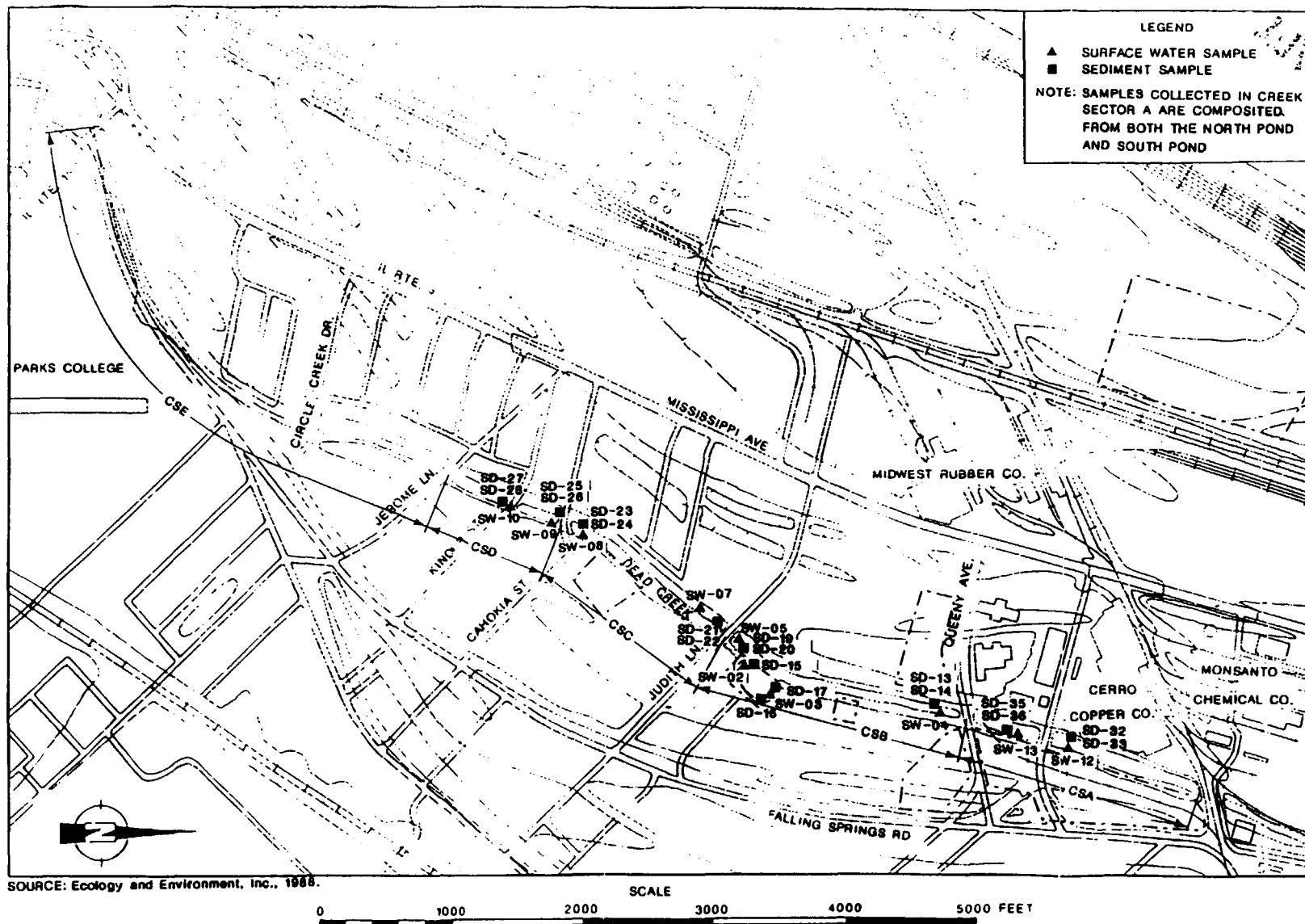


FIGURE 3-5 SURFACE WATER AND SEDIMENT  
SAMPLING LOCATIONS IN DEAD  
CREEK AND SITE M

**SAUGET Analytical Data  
Creek Segment D**

**SEDIMENT SAMPLES ( $\mu\text{g}/\text{kg}$ )**

Collected by IEPA

recycled paper

Sample Number	X106	Maximum
Property Owner	CSD	Concentration
Date Collected	3/91	Detected
<b>VOLATILES</b>		
Chlorobenzene	ND	ND
<b>SEMIVOLATILES</b>		
Pyrene	ND	ND
Benzo(b)fluoranthene	ND	ND
Chrysene	ND	ND
<b>PESTICIDES/PCB's</b>		
4,4'-DDE	ND	ND
Endrin	151	151
Endosulfan II	210	210
Gamma-Chlorodane	ND	ND
Aroclor-1254	6955	6955
Aroclor-1260	ND	ND
<b>INORGANICS</b>		
Arsenic	11.2	11.2
Barium	ND	ND
Cadmium	3.9	3.9
Calcium	22200	22200
Chromium	ND	ND
Cobalt	ND	ND
Copper	149	149
Lead	209	209
Magnesium	ND	ND
Mercury	0.2	0.2
Nickel	78.5	78.5
Zinc	704	704

$\mu\text{g}/\text{kg}$  - Micrograms per kilogram.

ND - Not detected.

**SAUGET Analytical Data  
Creek Segment D**

**SEDIMENT SAMPLES ( $\mu\text{g}/\text{kg}$ )**

Collected by IEPA

	Sample Number	X106	Maximum
	Date Collected	3/28/91	Detected
<b>VOLATILES</b>			
Methylene Chloride		ND	ND
Acetone		130	130
1,1,1-Trichloroethane		ND	ND
Trichloroethene		ND	ND
Toluene		ND	ND
Chlorobenzene		6 J	6 J
# of TICs		(0)	0
<b>SEMIVOLATILES</b>			
1,4-Dichlorobenzene		ND	ND
1,2-Dichlorobenzene		ND	ND
4-Methylphenol		ND	ND
Phenanthrene		220 J	220 J
Fluoranthene		510 J	510 J
Pyrene		480 J	480 J
Benzo(a)anthracene		ND	ND
Chrysene		ND	ND
Benzo(b)fluoranthene		480 J	480 J
# of TICs		(15)	15
<b>PESTICIDES/PCB's</b>			
beta-BHC		10 J	10 J
Heptachlor		ND	ND
Heptachlor epoxide		ND	ND
4,4'-DDE		ND	ND
Endrin		151	151
Endosulfan II		210	210
Methoxychlor		ND	ND
alpha-Chlorodane		ND	ND
gamma-Chlorodane		ND	ND
Aroclor-1254		6955	6955
Aroclor-1260		364 J	364 J

$\mu\text{g}/\text{kg}$  - Micrograms per kilogram.

J - Estimated value

ND - Not detected

TICs - Tentatively identified compounds

**SAUGET Analytical Data**  
**Creek Segment D**

**SEDIMENT SAMPLES**  
**Total Metals (mg/kg)**  
**Collected by IEPA**

recycled paper

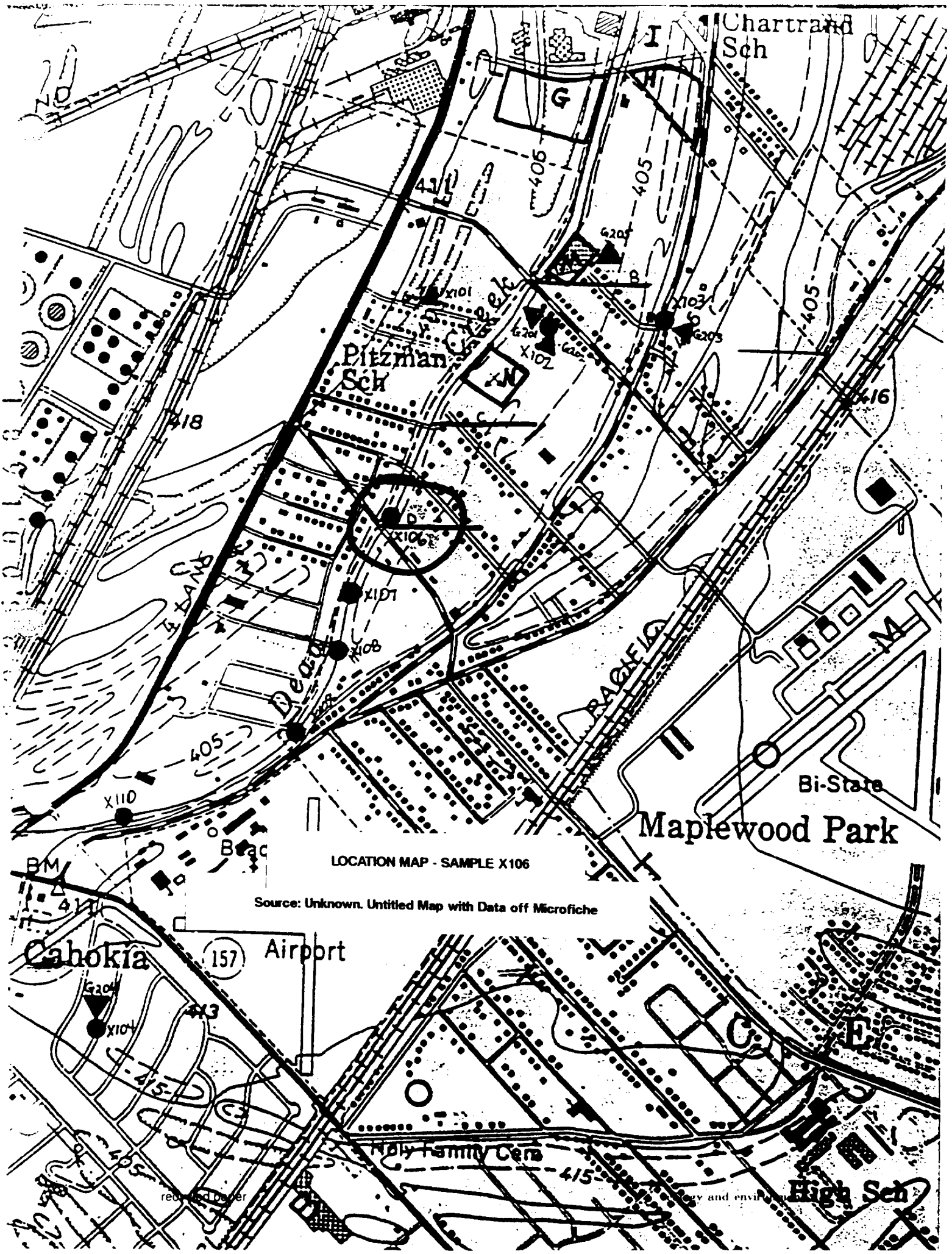
Sample Number	X106	Maximum
Date Collected	03/28/91	Detected
<b>Total Metals</b>		
<b>Aluminum</b>	<b>14800</b>	<b>14800</b>
<b>Antimony</b>	<b>16.7 B</b>	<b>16.7 B</b>
<b>Arsenic</b>	<b>11.2</b>	<b>11.2</b>
<b>Barium</b>	<b>337</b>	<b>337</b>
<b>Beryllium</b>	<b>ND</b>	<b>ND</b>
<b>Cadmium</b>	<b>3.9</b>	<b>3.9</b>
<b>Calcium</b>	<b>22200</b>	<b>22200</b>
<b>Chromium</b>	<b>39.9</b>	<b>39.9</b>
<b>Cobalt</b>	<b>6.3 B</b>	<b>6.3 B</b>
<b>Copper</b>	<b>149</b>	<b>149</b>
<b>Iron</b>	<b>20100</b>	<b>20100</b>
<b>Lead</b>	<b>209</b>	<b>209</b>
<b>Magnesium</b>	<b>6690</b>	<b>6690</b>
<b>Manganese</b>	<b>258</b>	<b>258</b>
<b>Mercury</b>	<b>0.2</b>	<b>0.2</b>
<b>Nickel</b>	<b>78.5</b>	<b>78.5</b>
<b>Potassium</b>	<b>3220</b>	<b>3220</b>
<b>Selenium</b>	<b>0.7 B</b>	<b>0.7 B</b>
<b>Silver</b>	<b>ND</b>	<b>ND</b>
<b>Sodium</b>	<b>666 B</b>	<b>666 B</b>
<b>Thallium</b>	<b>ND</b>	<b>ND</b>
<b>Vanadium</b>	<b>41.2</b>	<b>41.2</b>
<b>Zinc</b>	<b>704</b>	<b>704</b>
<b>Sulfate</b>	<b>ND</b>	<b>ND</b>

mg/kg - Milligrams per kilogram.

B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.

ND - Not detected.

and environment



LOCATION MAP - SAMPLE X106

Source: Unknown. Untitled Map with Data off Microfiche

CS-E Data



# SAUGET Analytical Data Creek Segment E

## SEDIMENT SAMPLES (µg/kg)

Collected by IEPA

Sample Number	X107	X108	X109	X110	Maximum
Property Owner	CSE	CSE	CSE	CSE	Concentration
Date Collected	3/28/91	3/28/91	3/28/91	3/28/91	Detected
VOLATILES					
Chlorobenzene	120	ND	ND	ND	120
SEMIVOLATILES					
Pyrene	5300	ND	ND	ND	5300
Benzo(b)fluoranthene	2400	ND	ND	ND	2400
Chrysene	2800	ND	ND	ND	2800
PESTICIDES/PCB's					
4,4'-DDE	ND	ND	ND	ND	ND
Endrin	976	ND	ND	ND	976
Endosulfan II	ND	ND	ND	ND	ND
Gamma-Chlorodane	ND	ND	ND	ND	ND
Aroclor-1254	45653	ND	ND	ND	45653
Aroclor-1260	14273	ND	ND	ND	14273
INORGANICS					
Arsenic	30.3	10.1	12.2	11.3	30.3
Barium	3690	ND	ND	ND	3690
Cadmium	23.1	21.9	11.8	1.9	23.1
Calcium	83400	66200	ND	66300	83400
Chromium	106	ND	ND	ND	106
Cobalt	ND	ND	ND	ND	ND
Copper	8540	1160	404	108	8540
Lead	1270	235	140	440	1270
Magnesium	7890	7760	7760	ND	7890
Mercury	1.53	1.27	0.62	0.32	1.53
Nickel	2130	134	391	66	2130
Zinc	9970	1740	3140	382	9970

µg/kg - Micrograms per kilogram.

ND - Not detected.

**SAUGET Analytical Data**  
**Creek Segment E**

**SEDIMENT SAMPLES (µg/kg)**

Collected by IEPA

	Sample Number	X107	X108	X109	X110	Maximum
	Date Collected	3/28/91	3/28/91	3/28/91	3/28/91	Detected
<b>VOLATILES</b>						
Methylene Chloride		18 J	ND	ND	ND	18 J
Acetone		410	11 J	5 J	18	410
1,1,1-Trichloroethane		ND	ND	ND	ND	ND
Trichloroethene		ND	ND	ND	ND	ND
Toluene		ND	ND	ND	ND	ND
Chlorobenzene		120	ND	ND	ND	120
# of TICs		(0)	(0)	(0)	(0)	0
<b>SEMIVOLATILES</b>						
1,4-Dichlorobenzene		1500 J	490 J	ND	ND	1500 J
1,2-Dichlorobenzene		ND	320 J	ND	ND	320
4-Methylphenol		ND	ND	ND	ND	ND
Phenanthrene		ND	320 J	ND	190 J	320 J
Fluoranthene		ND	470 J	ND	470 J	470 J
Pyrene		5300	450 J	ND	390 J	5300
Benzo(a)anthracene		ND	ND	ND	ND	ND
Chrysene		2800	400 J	ND	290 J	2800
Benzo(b)fluoranthene		2400	ND	ND	ND	2400
# of TICs		(18)	(18)	(18)	(18)	18
<b>PESTICIDES/PCB's</b>						
beta-BHC		ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND
Heptachlor epoxide		ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	3 J	3 J
Endrin		975	ND	ND	ND	975
Endosulfan II		ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND
alpha-Chlorodane		ND	ND	ND	ND	ND
gamma-Chlorodane		ND	ND	ND	ND	ND
Aroclor-1254		45653	ND	ND	ND	45653
Aroclor-1260		14273	ND	ND	ND	14273

µg/kg - Micrograms per kilogram

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Creek Segment E**

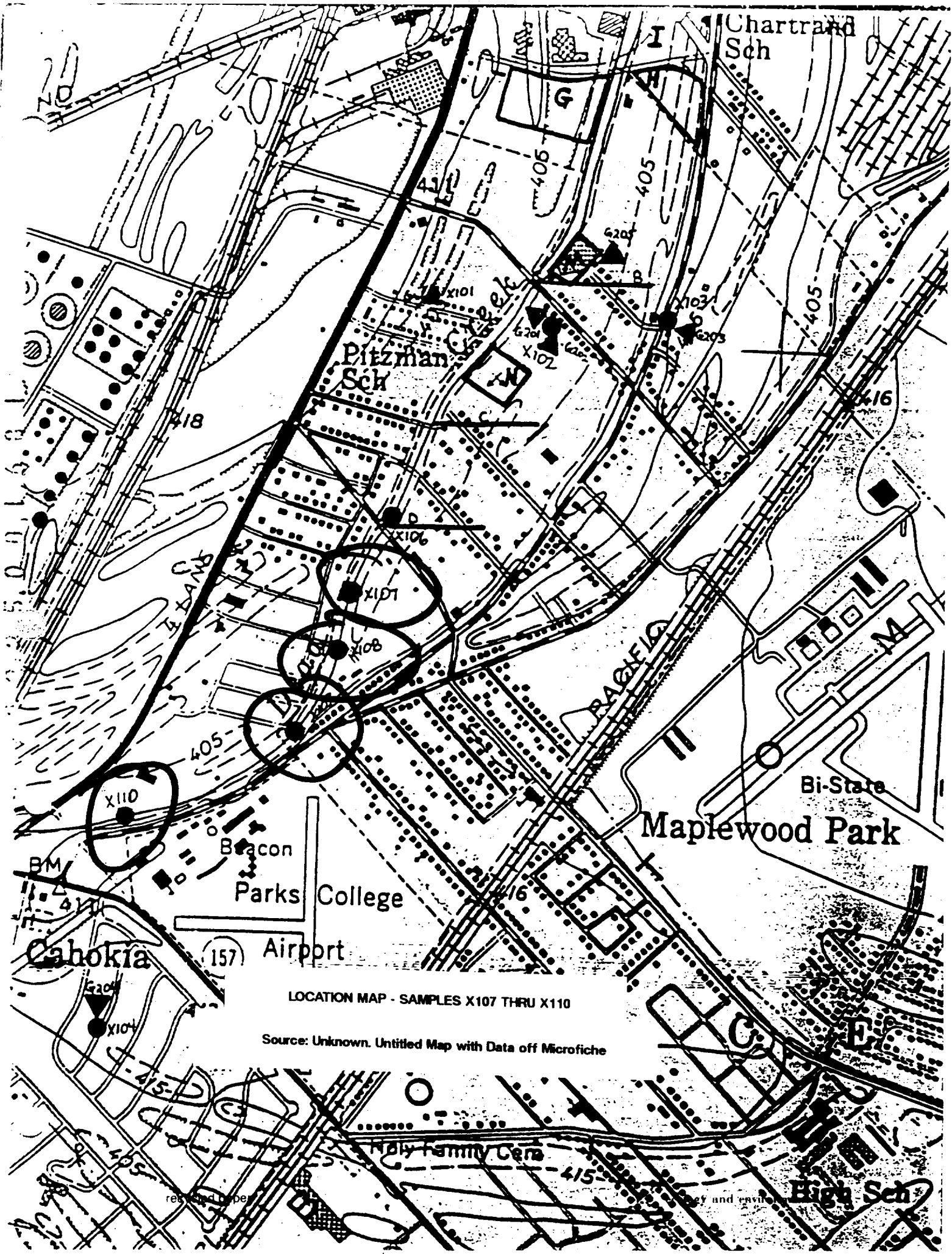
**SOIL SAMPLES  
Total Metals (mg/kg)  
Collected by IEPA**

	Sample Number	X107	X108	X109	X110	Maximum
	Date Collected	03/28/91	03/28/91	03/28/91	03/28/91	Detected
<b>Total Metals</b>						
<b>Aluminum</b>		15500	15600	14600	12000	15600
<b>Antimony</b>		32 B	14.5 B	ND	ND	32 B
<b>Arsenic</b>		30.3	10.1	12.2	11.3	30.3
<b>Barium</b>		3690	365	285	174	3690
<b>Beryllium</b>		ND	0.3 B	ND	ND	0.3 B
<b>Cadmium</b>		23.1	21.9	11.8	1.9	23.1
<b>Calcium</b>		83400	66200	10500	55300	83400
<b>Chromium</b>		105	29.4	35.4	42.3	105
<b>Cobalt</b>		12.7 B	ND	ND	ND	12.7 B
<b>Copper</b>		8540	1160	404	108	8540
<b>Iron</b>		39900	14500	24100	15800	39900
<b>Lead</b>		1270	235	140	440	1270
<b>Magnesium</b>		7890	7750	4980	5390	7890
<b>Manganese</b>		269	1360	386	268	1360
<b>Mercury</b>		1.53	1.27	0.62	0.32	1.53
<b>Nickel</b>		2130	134	391	56	2130
<b>Potassium</b>		2960	3320	3250	2700	3320
<b>Selenium</b>		1.4 B	ND	ND	ND	1.4 B
<b>Silver</b>		8.3	ND	ND	ND	8.3
<b>Sodium</b>		ND	461 B	312 B	ND	461 B
<b>Thallium</b>		ND	ND	ND	ND	ND
<b>Vanadium</b>		53.3	29.3	38.2	31.9	53.3
<b>Zinc</b>		9970	1740	3140	382	9970
<b>Sulfate</b>		ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

B - Estimated value The value is less than the CRDL, but greater than the instrument detection limit.

ND - Not detected.



LOCATION MAP - SAMPLES X107 THRU X110

Source: Unknown. Untitled Map with Data off Microfiche

**SAUGET Analytical Data**  
**Dead Creek - Segment E**

**SEDIMENT SAMPLES (mg/kg unless otherwise noted)**

**Collected by IEPA (11/31/80)**

	Sample Number		29	32	Maximum
	Sample Location		Jct. Dead Creek & Edgar St	S. of Jct. Hwys. 3 & 157	Concentration
	Sample Type	Normal Soil	Sediment	Sediment	Detected
Parameter					
Barium		250	210	390	390
Copper		70	320	1800	1800
Lead		16	260	250	260
Nickel		80	45	600	600
Phosphorous		1180	NA	NA	NA
Zinc		132	900	5600	5600
PCB's (µg/kg)		* 28	2.8	2	2.8
Chlordane (µg/kg)		* 50	ND	ND	ND
Alkylbenzenes		* 10-100	ND	ND	ND
Biphenyl		* NA	ND	ND	ND
Toluene		* 118	ND	ND	ND
Xylene		* 3	ND	ND	ND
Dichlorobenzene		* 5	ND	ND	ND
Trichlorobenzene		* 1-10	ND	ND	ND
Chloronitrobenzene		* 10-100	ND	ND	ND
Dichlorophenol		* 500	ND	ND	ND

mg/kg - Milligrams per kilogram.

NA - parameter not analyzed

ND - below detection limits

\* Maximum allowable concentration in units of mg/kg unless noted as otherwise

µg/kg - Micrograms per kilogram.

**SAUGET Analytical Data**  
**Dead Creek - Segment E**

**WATER SAMPLES (mg/L unless otherwise noted)**

**Collected by IEPA (11/31/80)**

	Sample Number	31	Maximum
	Sample Location	Jct. Dead Creek & Edgar St.	Concentration
	Sample Type	Water	Detected
Parameter			
Barium		0.08	0.08
Copper		0.04	0.04
Lead		< 0.05	ND
Nickel		0.01	0.01
Phosphorous		0.2	0.2
Zinc		0.06	0.06
PCB's (µg/L)		< 0.1	ND
Chlordane (µg/L)		ND	ND
Alkylbenzenes		ND	ND
Biphenyl		ND	ND
Toluene		ND	ND
Xylene		ND	ND
Dichlorobenzene		ND	ND
Trichlorobenzene		ND	ND
Chloronitrobenzene		ND	ND
Dichlorophenol		ND	ND

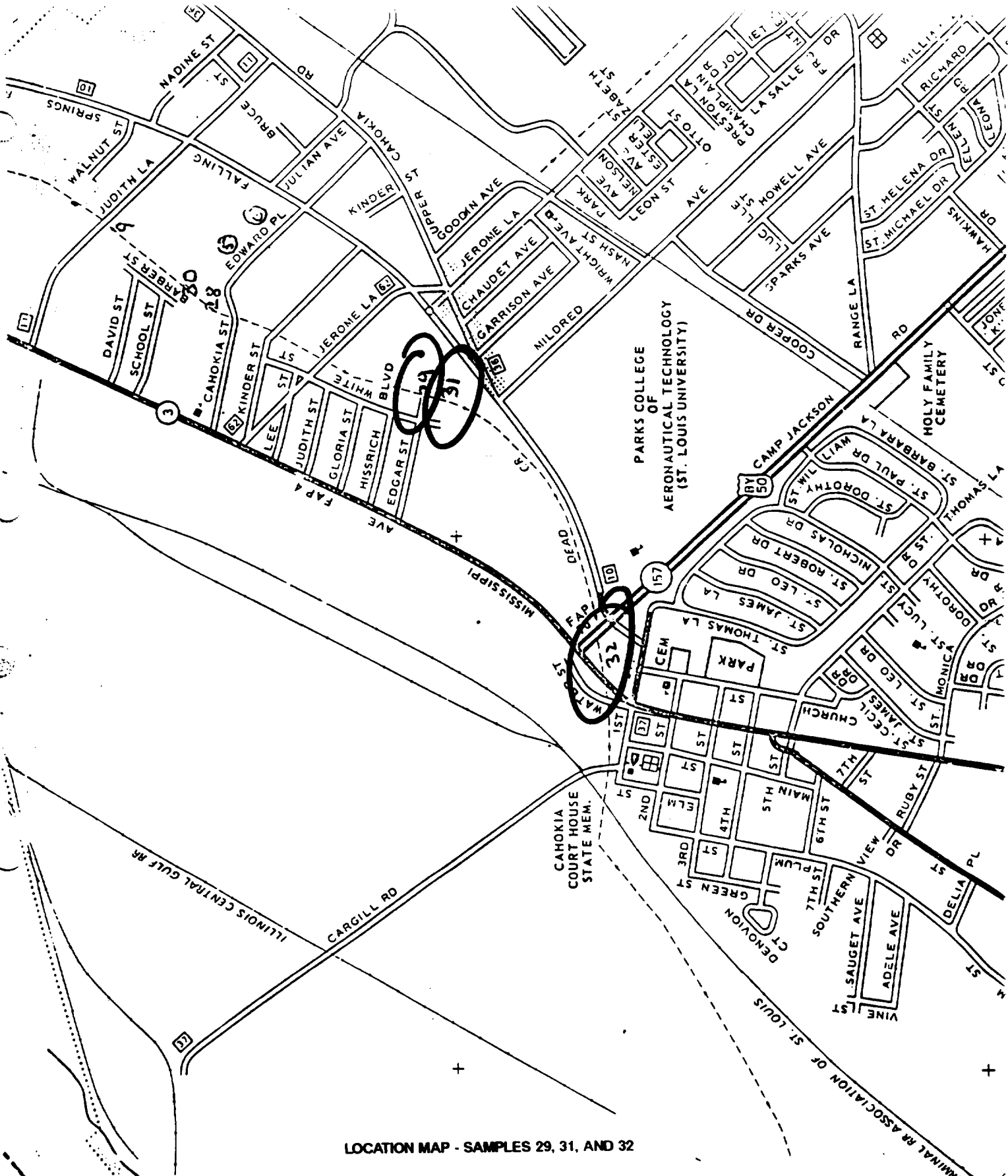
mg/L - Milligrams per liter.

NA - parameter not analyzed

ND - below detection limits

µg/L - Micrograms per liter.

\* Maximum allowable concentration in units of mg/kg unless noted as otherwise



LOCATION MAP - SAMPLES 29, 31, AND 32

Source: "Summary of the Phase II Investigation of Dead Creek", Author unknown, date unknown

recycled paper

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N ↑

high concentrations  
arsenic

high concentrations  
metals

ILL. Hwy. 3

QUEENY AVE.

CERRO GORDO  
COPPER CO.

CITY  
HALL

ORIGINAL  
WAGONER  
FACILITY

1400 FT.

DEAD CREEK

DEAD CREEK  
POND

THREESAY  
CREEK  
HOUSE

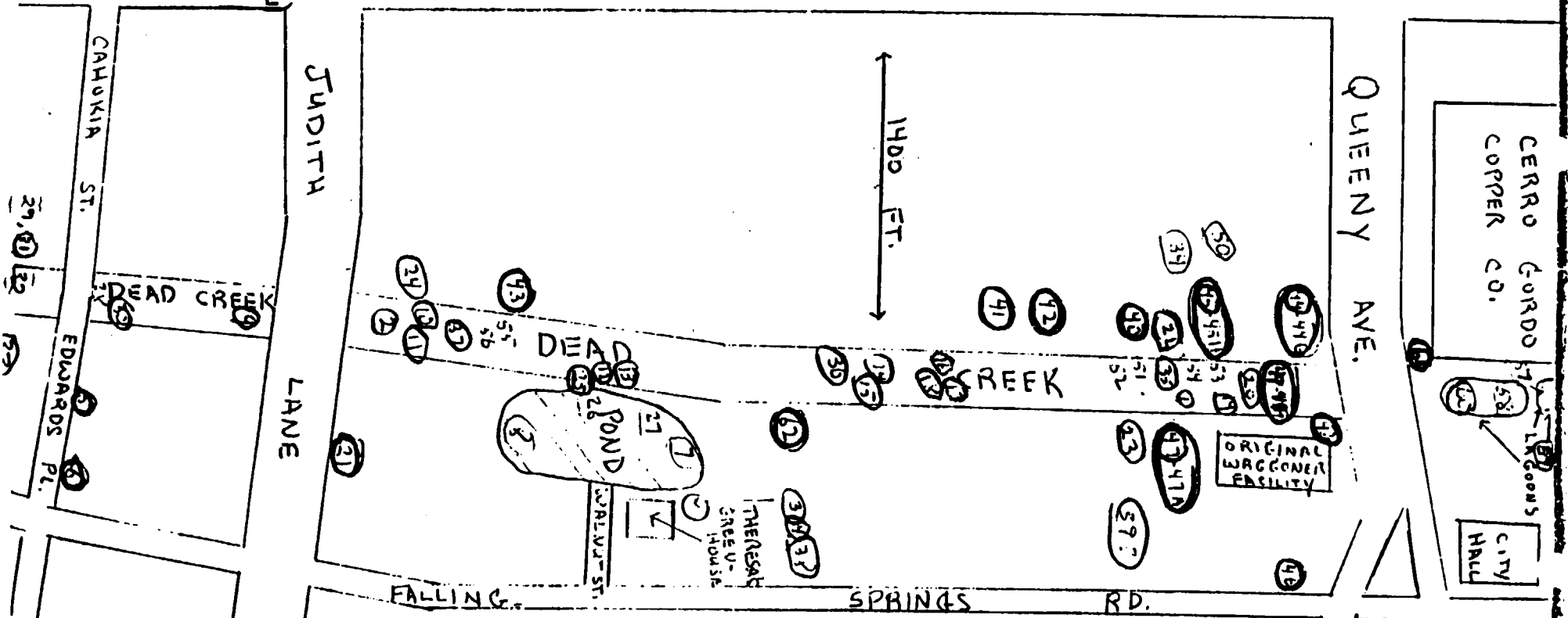
JUDITH  
LANE

LANE

CAHOKIA ST.

EDWARDS PL.

- soil - sediment (7)
- soil - subsurface (15)
- soil - surface (12)
- water - surface (6)
- water - well (18)
- biomass (2)
- air (6)





**SAUGET Analytical Data**  
**Dead Creek - Segment E**  
**SEDIMENT SAMPLES**  
**Metals (mg/kg)**  
**Collected by IEPA (09/25/80)**

Sample Number	8	Maximum Concentration
Metals		
Iron	11000	11000
Manganese	210	210
Calcium	210000	210000
Magnesium	10000	10000
Sodium	100	100
Potassium	1400	1400
Barium	210	210
Boron	ND	ND
Cadmium	8	8
Chromium	60	60
Copper	320	320
Lead	260	260
Nickel	45	45
Silver	ND	ND
Zinc	900	900
Beryllium	ND	ND
Cobalt	6	6
Strontium	210	210
Vanadium	22	22
Phosphorus	720	720

mg/kg - Milligrams per kilogram  
 ND - Not detected

ecology and environment

September 26, 1980

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

RECEIVED

SEP 30 1980

IEPA-DAPC-SPFLD

On Thursday September 25, 1980, this writer, along with Ken Hensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

<u>Sample Number</u>	<u>Location</u>	<u>Depth of Sample</u>
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

September 26, 1960

- |    |  |                          |
|----|--|--------------------------|
| 6  | Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond.   | 9 inches<br>(composite)  |
| 7  | Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek.  | 12 inches<br>(composite) |
| 8  | Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek.   | 6 inches<br>(composite)  |
| 9  | Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.   |                          |
| 10 | Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.  |                          |
| 11 | Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge.   | 6 inches<br>(composite)  |
| 12 | Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried). | 12 inches<br>(composite) |

cc: Southern Region  
Bill Child  
Jim Kelty ✓  
Attorney General

**SAUGET Analytical Data**  
**Dead Creek - Segment E**

**WATER SAMPLES**  
**Metals (mg/l)**  
**Collected by IEPA (09/25/80)**

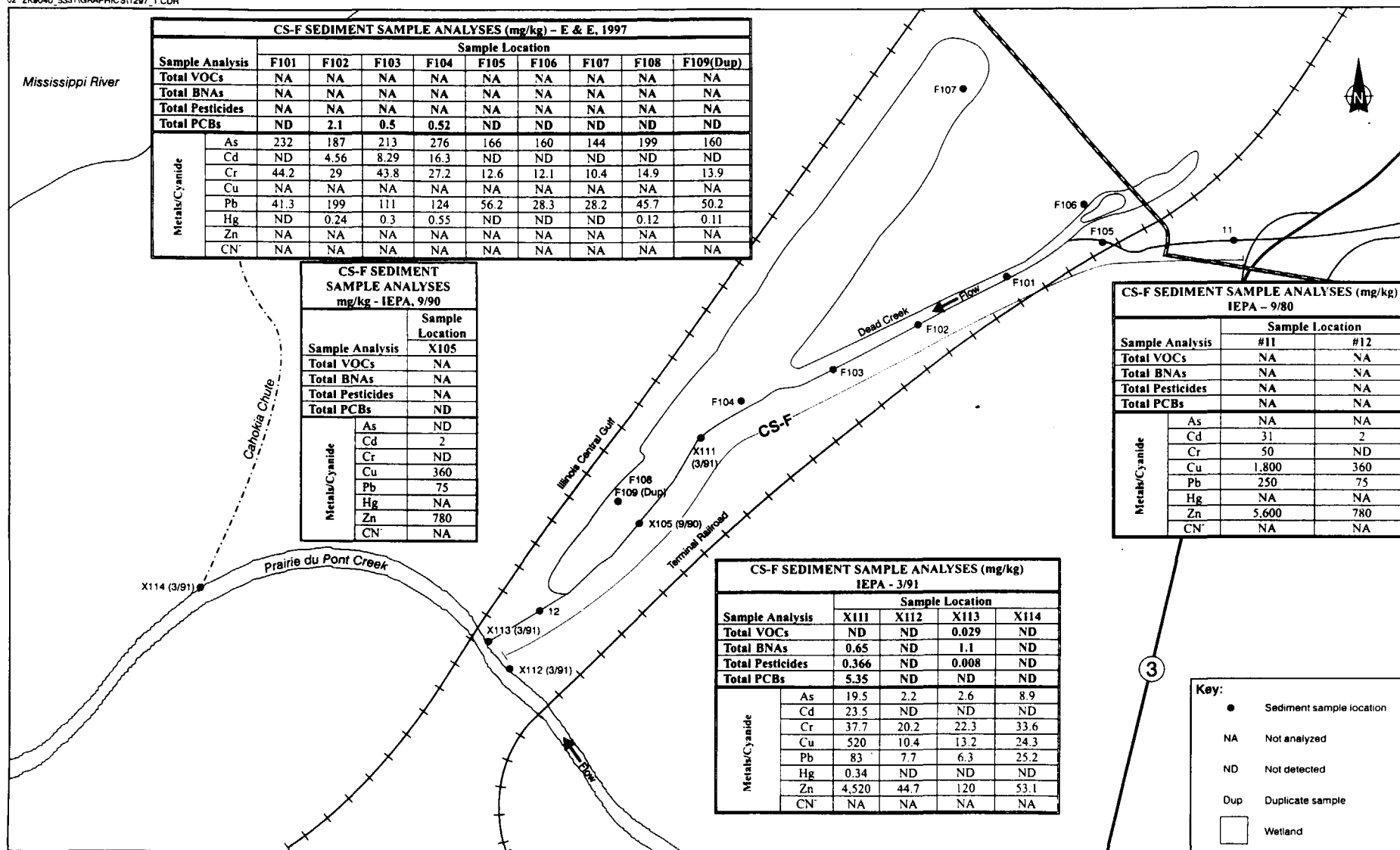
Sample Number	10	Maximum
		Concentration
<b>Metals</b>		
<b>Arsenic</b>	0.006	0.006
<b>Selenium</b>	ND	ND
<b>Iron</b>	0.87	0.87
<b>Manganese</b>	0.12	0.12
<b>Calcium</b>	35	35
<b>Magnesium</b>	2	2
<b>Sodium</b>	3	3
<b>Potassium</b>	3.3	3.3
<b>Barium</b>	0.08	0.08
<b>Boron</b>	0.04	0.04
<b>Cadmium</b>	ND	ND
<b>Chromium</b>	ND	ND
<b>Copper</b>	0.04	0.04
<b>Lead</b>	ND	ND
<b>Nickel</b>	0.01	0.01
<b>Silver</b>	ND	ND
<b>Zinc</b>	0.06	0.06
<b>Beryllium</b>	ND	ND
<b>Cobalt</b>	ND	ND
<b>Strontium</b>	0.07	0.07
<b>Vanadium</b>	ND	ND
<b>Phosphorus</b>	0.20	0.2

mg/l - Milligrams per liter

ND - Not detected

)

)



SOURCE: Ecology and Environment, Inc. 1998.

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**SAUGET AREA 1  
CREEK SEGMENT F (CS-F)  
SAMPLING LOCATIONS/DATA**

# **SITE NARRATIVE**

**CREEK SEGMENT F**

### SITE NARRATIVE - SAUGET AREA 1 / Creek Segment F

Sample Locations	Sampling Entity	Date Sampled	Data Source
F101 thru F109	E & E	1997	Memo to P. Takacs (IEPA) from L. Evison (USEPA) dated June 4, 1997. (7 pages)
X105	IEPA	9/25/80	"Description of Current Situation at the Dead Creek Project Sites " prepared for IEPA by Ecology and Environment, Inc., July 1986
X111 thru X114	IEPA	3/27/91	Report Source not known or recorded
11,12	IEPA	9/25/80	Memo to Division File from T. Powell (southern region) dated December 26, 1980 (2 pages plus data sheets)

#### Nature and Extent of Contamination:

VOCs were not detected in any of the four samples (X111 - X114). BNA concentrations in sediments from CS-F ranged from 0.65 to 1.1 mg/kg in two of the four samples (X111-X114). Pesticides were detected also in two of the four samples (X111-X114) at concentrations ranging from 0.008 to 0.366 mg/kg. PCBs were detected in four of the thirteen samples at concentrations ranging from 0.5 to 5.3 mg/kg. Most metals were found at elevated concentrations throughout the creek sector. Contaminants are most likely contained within the creek sediments and possibly the surface water.

The extent of contamination in CS-F is only moderately well defined, due to the number of sampling locations and the large area covered by segment CS-F.

#### Containment and Integrity (if known):

There is no known containment for this CS-F. To the west of Route 3, CS-F drains into a large wetland area prior to discharging into the Prairie DuPont Creek. Access to this segment of the creek is unrestricted

Other Comments: See the attached "Site Description" for more site details.



## **SITE DESCRIPTION - Sauget Area 1/Creek Segments C through F**

Creek segments C through F (CS-C, CS-D, CS-E, and CS-F) includes the entire length of Dead Creek south of Judith Lane. This portion of the creek flows south-southwest through the village of Cahokia prior to discharging into the Prairie Dupont Creek. CS-C through CS-F are delineated as follows: CS-C extends from Judith Lane at the north end to Cahokia Street to the south; CS-D extends from Cahokia Street to Jerome Street; CS-E extends from Jerome Street to the intersection of Illinois Routes 3 and 157; and CS-F extends from this intersection to the discharge point at Prairie Dupont creek. In the southern portion of CS-E near Parks College, Dead Creek temporarily passes through corrugated pipe, and downstream of this point the creek passes through a series of culverts prior to draining into a large wetland area (part of CS-F) west of Illinois Route 3. Dead Creek is wider in segment CS-F than in the upgradient segments. Segments C, D, and E are dominated by intermittent flow. Segments C and D are located adjacent to residential areas. Segment E runs through mostly commercial developments. Segments C through F have been impacted by the draining of upgradient contaminated segments of Dead Creek. Access to Dead Creek Segments C through F is unrestricted.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report and from a Site Summary for Sauget Area 1 Sites, both prepared by IEPA)

11-11-11

CS-F Data

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**SAUGET Analytical Data  
Dead Creek - Segment F**

**SEDIMENT SAMPLES  
Metals (mg/kg)  
Collected by START (1997)**

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	Sample Number	F102	F103	BLANK	F104	F105	F106	F107	F108	F109	Maximum
<b>Metal</b>											<b>Concentration</b>
Arsenic		232	187	213	276	166	160	144	199	160	276
Barium		145	162	179	228	116	133	137	138	163	228
Cadmium		ND	4.56	8.29	16.3	ND	ND	ND	ND	ND	16.3
Chromium		44.2	29	43.8	27.2	12.6	12.1	10.4	14.9	13.9	44.2
Lead		41.2	199	111	124	56.2	28.3	28.2	45.7	50.2	199
Mercury		ND	0.24	0.3	0.55	ND	ND	ND	0.12	0.11	0.55
Selenium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram.  
ND - Not detected.

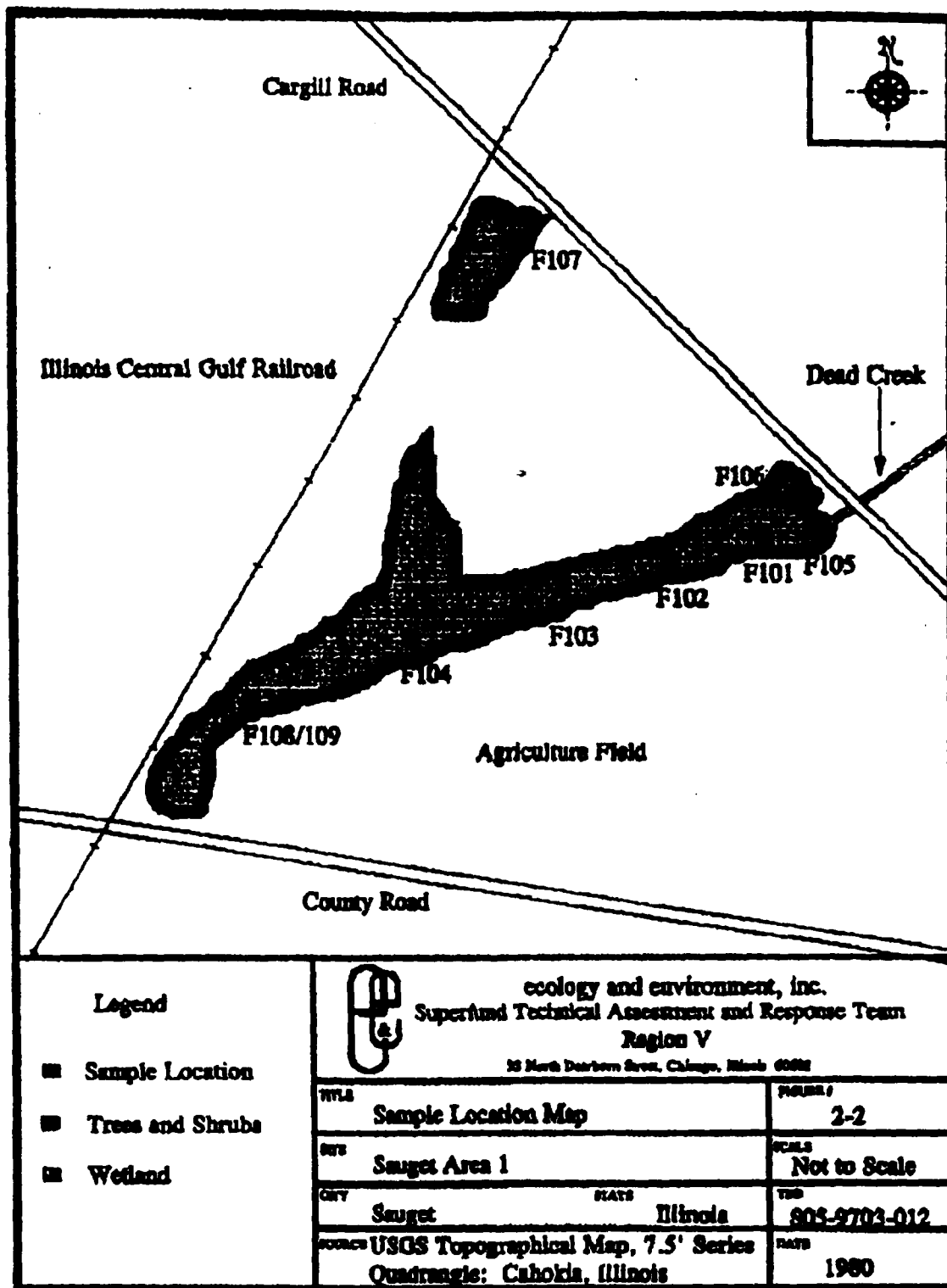
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**SAUGET Analytical Data**  
**Dead Creek - Segment F**

**SEDIMENT SAMPLES**  
**PCB (mg/kg)**  
**Collected by START (1997)**

	Sample Number		F101	F102	F103	F104	F105	F106	F107	F108	Maximum
PCB											Concentration
1254			ND	2.1	0.5	0.52	ND	ND	ND	ND	2.1
1248			ND	ND	ND	ND	ND	ND	ND	ND	ND
1260			ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram.  
 ND - below detection limits



**SAUGET Analytical Data**  
Creek Segment F

**SOIL/SEDIMENT SAMPLES ( $\mu\text{g}/\text{kg}$ )**

Collected by IEPA

Sample Number	X111	X112	X113	X114	Maximum
Date Collected	3/27/91	3/27/91	3/27/91	3/27/91	Detected
<b>VOLATILES</b>					
Methylene Chloride	ND	ND	ND	ND	ND
Acetone	12 J	3 J	22	ND	22
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Toluene	ND	ND	29	ND	29
Chlorobenzene	ND	ND	ND	ND	ND
# of TICs	(0)	(0)	(0)	(0)	0
<b>SEMIVOLATILES</b>					
1,4-Dichlorobenzene	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	1100	ND	1100
Phenanthrene	ND	ND	ND	ND	ND
Fluoranthene	310 J	ND	ND	ND	310
Pyrene	340 J	ND	ND	ND	340
Benzo(a)anthracene	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
# of TICs	(16)	(20)	(20)	(12)	20
<b>PESTICIDES/PCB's</b>					
$\gamma$ -BHC	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND	ND
4,4'-DDE	97	ND	ND	ND	97
Endrin	66	ND	ND	ND	66
Endosulfan II	203	ND	ND	ND	203
Methoxychlor	ND	ND	8	ND	8
$\alpha$ -Chlorodane	ND	ND	ND	ND	ND
$\gamma$ -Chlorodane	ND	ND	ND	ND	ND
Aroclor-1254	4486	ND	ND	ND	4486
Aroclor-1260	862	ND	ND	ND	862

$\mu\text{g}/\text{kg}$  - Micrograms per kilogram.

J - Estimated value.

ND - Not detected.

TICs - Tentatively identified compounds

**SAUGET Analytical Data**  
Creek Segment F

**SEDIMENT SAMPLES ( $\mu\text{g/kg}$  unless otherwise noted)**

Collected by IEPA

Sample Number	X111	X112	Maximum
Property Owner	CSF	OPDUPONT	Concentration
Date Collected	3/91	NA	Detected
<b>VOLATILES</b>			
Chlorobenzene	ND	ND	ND
<b>SEMIVOLATILES</b>			
Pyrene	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND
Chrysene	ND	ND	ND
<b>PESTICIDES/PCB's</b>			
4,4'-DDE	97	ND	97
Endrin	66	ND	66
Endosulfan II	203	ND	203
Gamma-Chlorodane	ND	ND	ND
Aroclor-1254	4486	ND	4486
Aroclor-1260	862	ND	862
<b>INORGANICS (mg/kg)</b>			
Arsenic	19.5	2.2 BJ	19.5
Barium	ND	136	136
Cadmium	23.5	ND	23.5
Calcium	ND	3650	3650
Chromium	ND	20.2	20.2
Cobalt	18.8	ND	18.8
Copper	520	10.4	520
Lead	83	7.7	83
Magnesium	ND	2390	2390
Mercury	0.34	ND	0.34
Nickel	772	14	772
Zinc	4620	44.7	4620

$\mu\text{g/kg}$  - Micrograms per kilogram.

$\text{mg/kg}$  - Milligrams per kilogram.

B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.

J - Estimated value.

ND - Not detected.

**SAUGET Analytical Data**  
Creek Segment F

**SOIL SAMPLES**  
Total Metals (mg/kg)  
Collected by IEPA

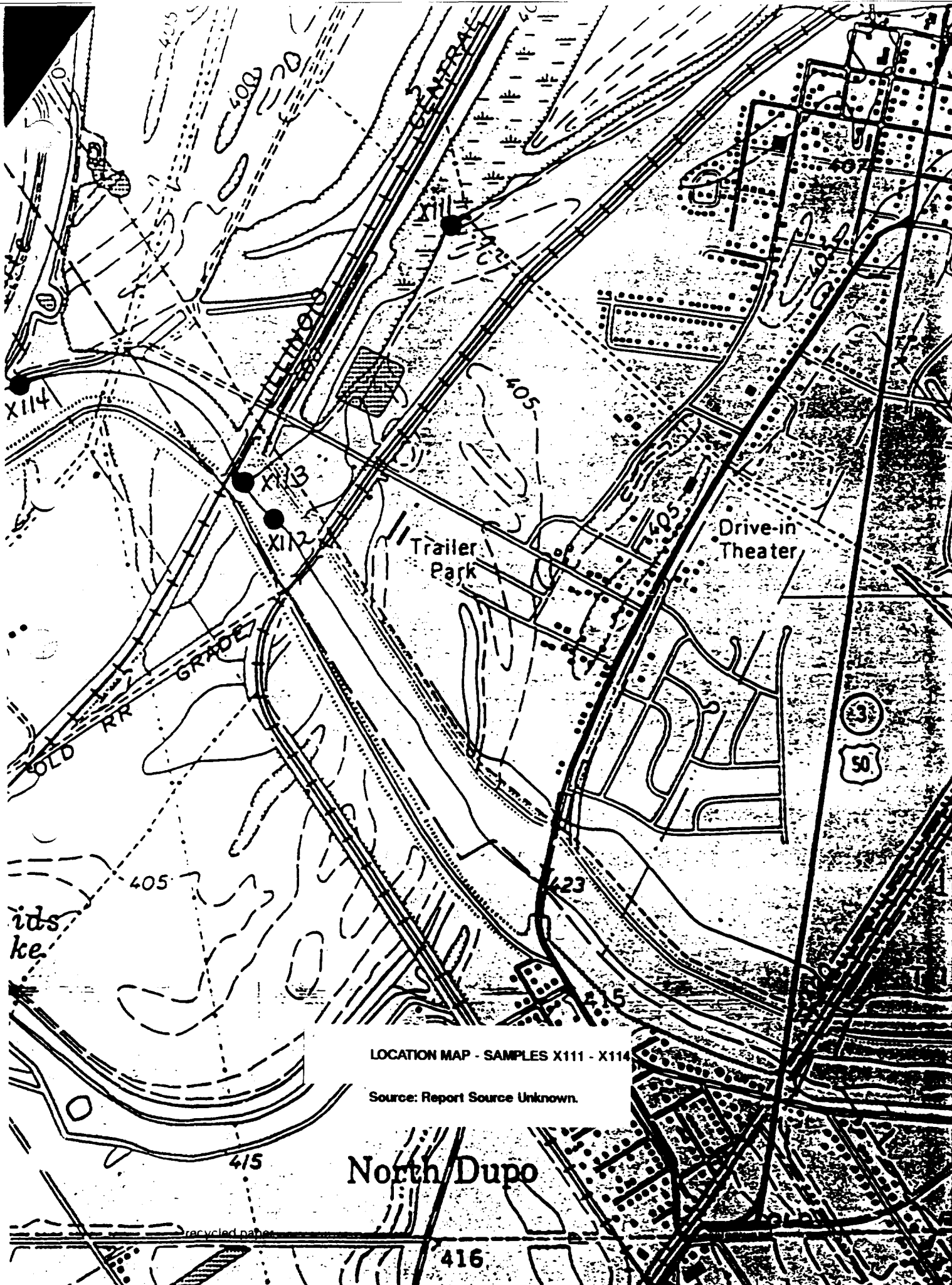
Sample Number	X111	X112	X113	X114	Maximum
Date Collected	03/27/91	3/27/91	3/27/91	3/27/91	Detected
<b>Total Metals</b>					
<b>Aluminum</b>	21700	9400	10100	20600	21700
<b>Antimony</b>	10.8 B	ND	ND	ND	10.8
<b>Arsenic</b>	19.5	2.2 B	2.6 B	8.9	19.5
<b>Barium</b>	313	135	152	227	313
<b>Beryllium</b>	ND	ND	ND	ND	ND
<b>Cadmium</b>	23.5	ND	ND	ND	23.5
<b>Calcium</b>	9140	3650	5560	5940	9140
<b>Chromium</b>	37.7	20.2	22.3	33.6	37.7
<b>Cobalt</b>	18.8	ND	ND	10.8 B	18.8
<b>Copper</b>	520	10.4	13.2	24.3	520
<b>Iron</b>	35300	14500	15700	28400	35300
<b>Lead</b>	83	7.7	6.3	25.2	83
<b>Magnesium</b>	5330	2390	2270	4300	5330
<b>Manganese</b>	535	429	680	896	896
<b>Mercury</b>	0.34	ND	ND	ND	0.34
<b>Nickel</b>	772	14	17.4	29.3	772
<b>Potassium</b>	3670	1260 B	1450 B	2730	3670
<b>Selenium</b>	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND
<b>Sodium</b>	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND
<b>Vanadium</b>	54.3	28.4	30.9	50.5	54.3
<b>Zinc</b>	4520	44.7	53.1	120	4520
<b>Sulfate</b>	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.

ND - Not detected.





LOCATION MAP - SAMPLES X111 - X114

Source: Report Source Unknown.

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**SAUGET Analytical Data**  
**Dead Creek - Segment F**

**SEDIMENT SAMPLES**  
**Metals (mg/kg)**  
**Collected by IEPA (09/25/80)**

	Sample Number	11	12	Maximum
				Concentration
Metals				Detected
Iron		19000	1800	19000
Manganese		160	200	200
Calcium		16000	13000	16000
Magnesium		6100	3300	6100
Sodium		190	125	190
Potassium		2100	1400	2100
Barium		390	475	475
Boron		ND	ND	ND
Cadmium		31	2	31
Chromium		50	ND	50
Copper		1800	360	1800
Lead		250	75	250
Nickel		600	ND	600
Silver		ND	ND	ND
Zinc		5600	780	5600
Beryllium		2	ND	2
Cobalt		8	9	9
Strontium		47	43	47
Vanadium		31	35	35
Phosphorus		1200	4200	4200

mg/kg - Milligrams per kilogram

ND - Not detected

September 26, 1980

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

RECEIVED

SEP 30 1980

IEPA-DAPC-SPFLD

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

<u>Sample Number</u>	<u>Location</u>	<u>Depth of Sample</u>
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

September 26, 1980

- 6 Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond. 9 inches (composite)
- 7 Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek. 12 inches (composite)
- 8 Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek. 6 inches (composite)
- 9 Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.
- 10 Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.
- 11 Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge. 6 inches (composite)
- 12 Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried). 12 inches (composite)

cc: Southern Region  
Bill Child  
Jim Kelty ✓  
Attorney General

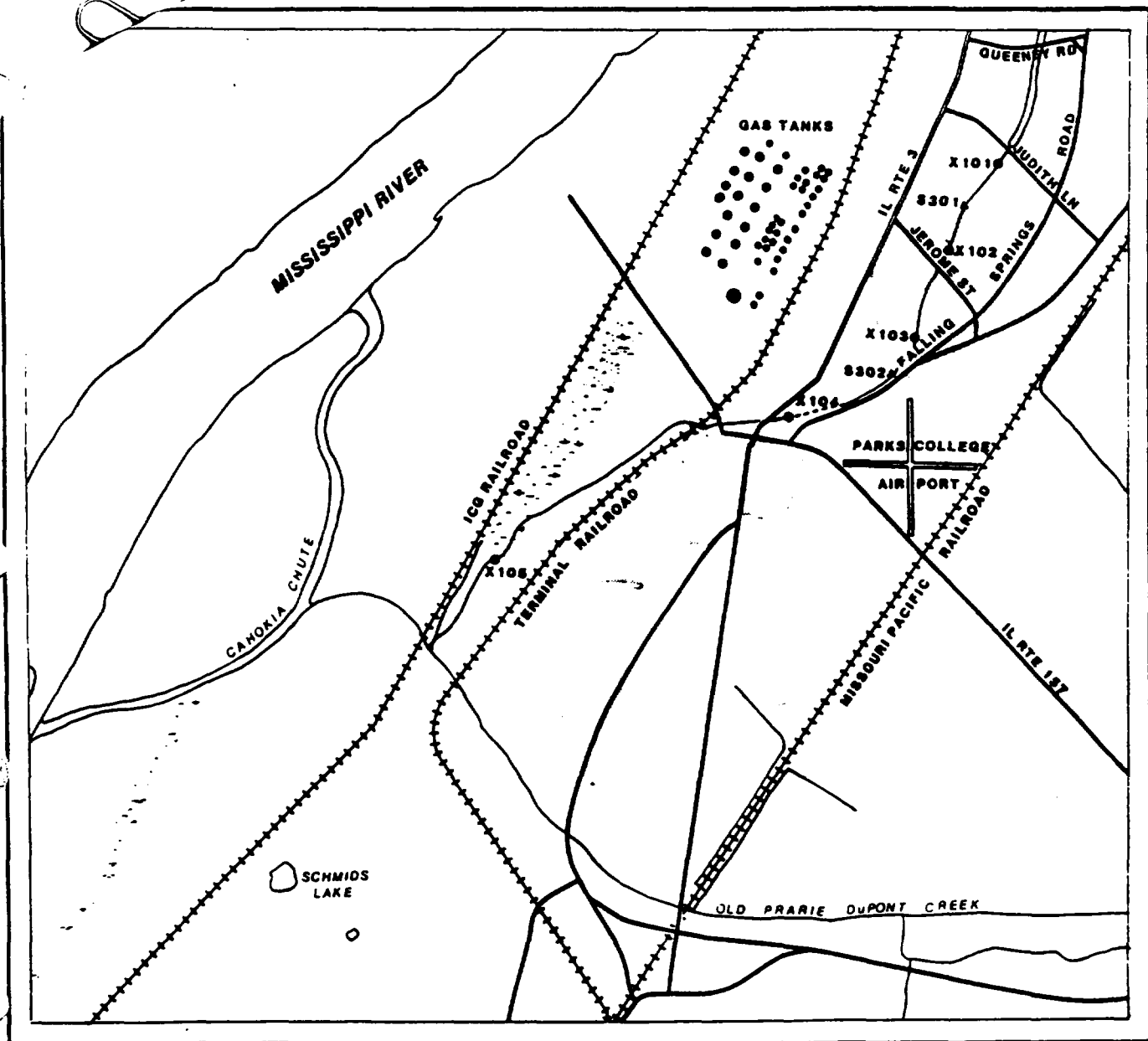
**SAUGET Analytical Data  
Site F**

**SOIL/SEDIMENT SAMPLES  
Metals/PCB (mg/kg)  
Collected by IEPA (9/25/90)**

Sample Number	x105	Maximum
Metals		Concentration
Aluminum	ND	ND
Arsenic	ND	ND
Barium	475	475
Beryllium	ND	ND
Boron	ND	ND
Cadmium	2	2
Calcium	13000.0	13000
Chromium	ND	ND
Cobalt	9.0	9
Copper	360.0	360
Iron	18000.0	18000
Lead	75.0	75
Magnesium	3300.0	3300
Manganese	200.0	200
Nickel	ND	ND
Phosphorus	4200.0	4200
Potassium	1400.0	1400
Silver	ND	ND
Sodium	125.0	125
Strontium	43.0	43
Vanadium	35.0	35
Zinc	780.0	780
PCB	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected



SCALE  
0 0.5 1 MILE

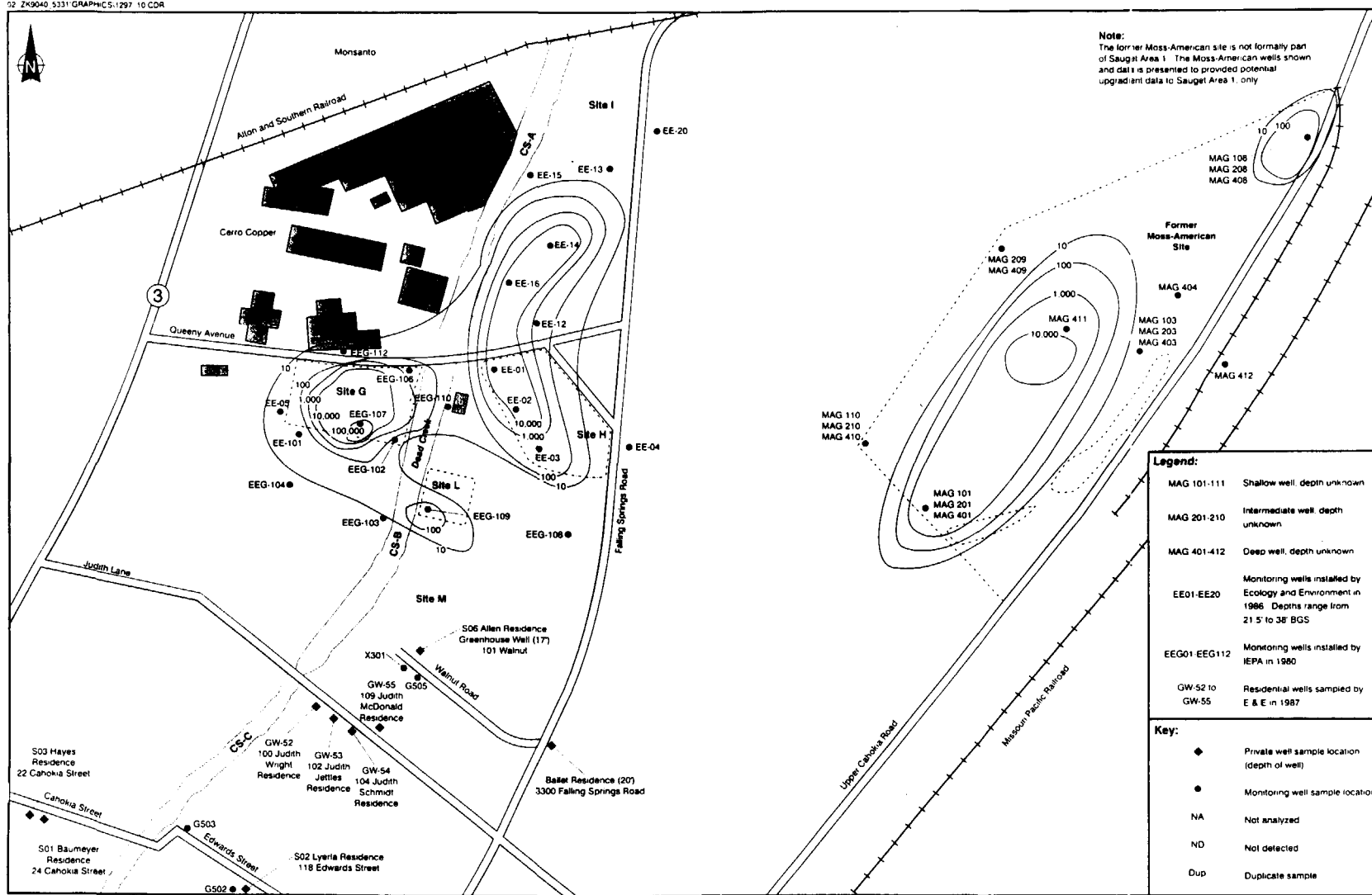
LEGEND  
X101 SEDIMENT SAMPLING LOCATION  
S301 SURFACE WATER SAMPLING LOCATION  
RESIDENTIAL AREA

FIGURE C-1  
IEPA SAMPLING LOCATIONS CREEK SECTORS C THROUGH F

**Area 1 Groundwater**

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SOURCE: Ecology and Environment, Inc. 1998

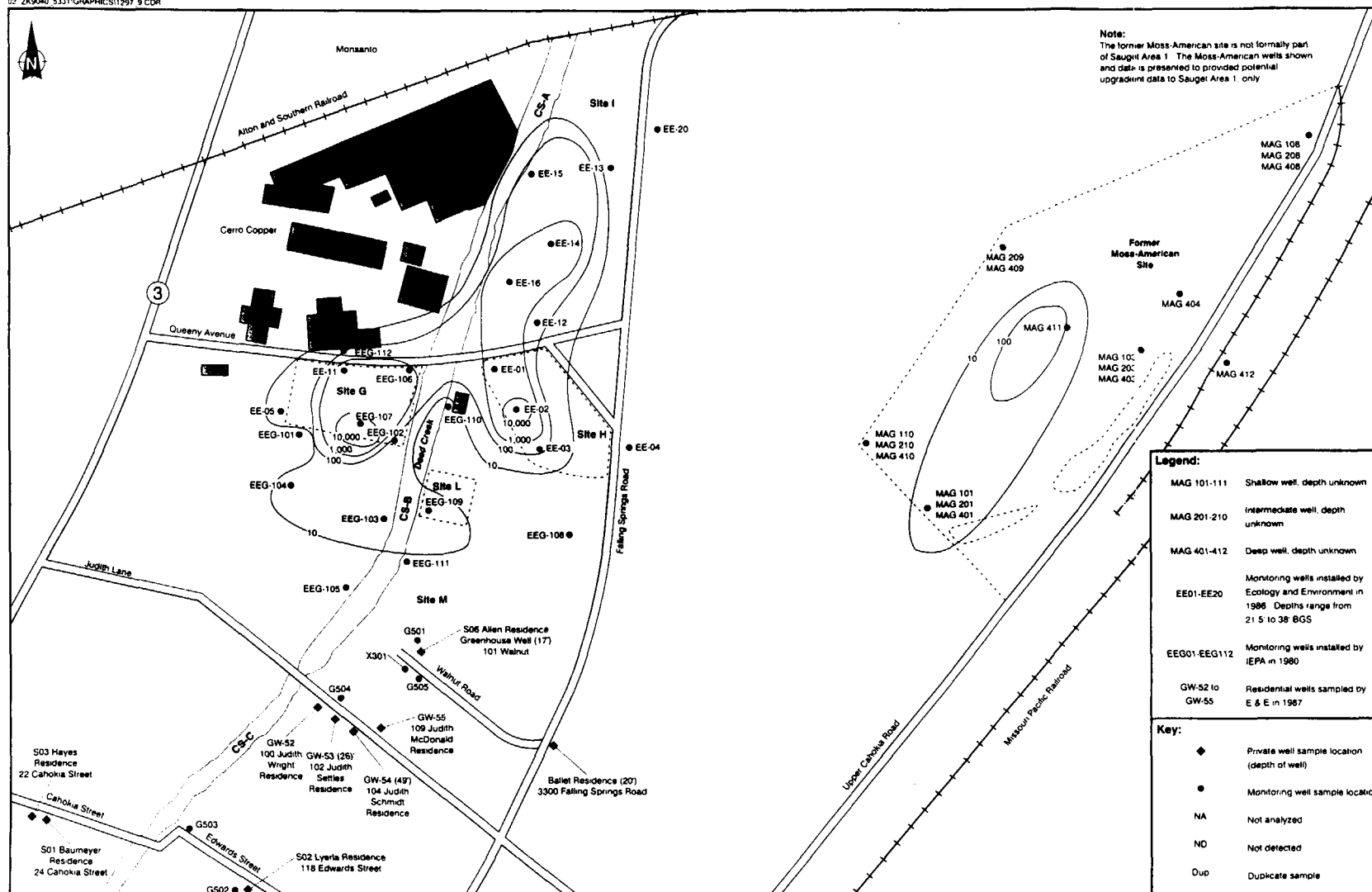
© 1998 Ecology and Environment, Inc.

APPROXIMATE SCALE

0 1/4 1/2 Mile

**SAUGET AREA 1**  
**AREA 1 GROUNDWATER**  
**TOTAL BNA CONCENTRATION CONTOURS**





SOURCE: Ecology and Environment, Inc. 1998

© 1998 Ecology and Environment, Inc.

APPROXIMATE SCALE

0 1/4 1/2 Mile

**SAUGIET AREA 1**  
**AREA 1 GROUNDWATER**  
**TOTAL VOC CONCENTRATION CONTOURS**

# **SITE NARRATIVE**

## **AREA 1 GROUNDWATER**

# SITE NARRATIVE - SAUGET AREA 1 / Groundwater

Site*	Sample Locations	Sampling Entity	Date Sampled	Data Source
Area 1	G101 thru G112 (wells EEG101 thru EEG112)	IEPA	10/23/80	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
Site G	EE-G101, EE-G103, EE-G104, EE-G107, EE-05, EE-11, EE-G102	E & E	3/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Site G	G102	E & E	7/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Site H	EE-01 thru EE04 EE-G110	E & E	3/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Site I	EE-12, EE-13 thru EE-16, EE-20, EE-G112	E & E	3/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Site L	EE-G108, EE-G109	E & E	3/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
NA**	MAG101 - MAG110 MAG201 - MAG212 MAG401 - MAG412	Kerr-McGee	7/95	Letter to Mr. Robert O'Hara (IEPA) From K. Watson (Kerr McGee): Re: Groundwater Quality Report - July 1995 dated March 14, 1996
Area 1	McDonald, Wright, Settles, Schmidt	E & E	3/26/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Area 1	Allen (S06), Hayes (S03), Baumeyer(S01), Lyerla (S02)	IEPA	3/3/82	Individual data table and sample location sheet
Area 1	G501 - G504	IEPA	9/80	CERCLA PA Report - Dead Creek Segments C-F ILD984809285
Area 1	G505, X301	IEPA	1983	CERCLA PA Report - Dead Creek Segments C-F ILD984809285
Area 1	Allen Residence Greenhouse Well	IEPA	10/80	
Area 1	G101 thru G112	IEPA	1/81	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986

SITE NARRATIVE - SAUGET AREA 1 / Groundwater				
Area 1	G101 thru G112	IEPA	3/81	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
Area 1	G201 (Settles) G202 (Schmidt) G203 (Ballet) G204 (Kearby) G205 (Allen)	IEPA	3/27/81	CERCLA SSIR - Sauget Sites Area 1
<p><b>Nature and Extent of Contamination:</b></p> <p>Total VOC concentrations detected in samples collected from area 1 monitoring wells range from 2 µg/L to 29,320 µg/L, and total BNA concentrations ranged from 8 ug/l to 239,360 ug/l. Contamination (from the late 1980's sampling presented on the figure) is somewhat limited to areas directly beneath and adjacent to the disposal areas at Sites G, H, I, and L. The concentration ranges presented in this summary reflect only the monitoring well and private well data presented on the Area 1 Groundwater Figure. Additional data provided in the data summary tables section will reveal different concentration ranges, depending upon the wells sampled and the date.</p> <p>Wells G107 on Site G, EE-02 on Site H, and EE-14/EE-16 for Site I contain much higher organic concentrations than surrounding wells. This is probably due to the fact that these wells were installed within the waste areas. VOC and BNA concentrations were higher at Site G (G107) than at Sites H, I, and L.</p> <p>The extent of shallow groundwater contamination in Area 1 is fairly well defined in areas adjacent to Sites G, H, and L. However, because there are no wells located south of Site G and west of CS-B, potential groundwater impact from CS-B and Site M cannot be determined. No data is available for intermediate or deeper aquifer zones. Residential wells were generally clean during all sampling events.</p>				
<p><b>Containment and Integrity (if known):</b></p> <p>There is no known containment for groundwater contamination beneath the Sauget Area 1 sites. All of the disposal sites in this area are unlined, and waste material was observed at depths below the water table in borings at Sites G, H, and I.</p>				
<p><b>Other Comments:</b> None</p>				

\* - Corresponding Site if applicable

**Area 1 Groundwater Data**

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**SAUGET Analytical Data**  
**Dead Creek - Segment B**

**MONITORING WELL SAMPLES**  
**Total Metals/Indicators (mg/L)/Organics (µg/L)**  
**Collected by IEPA (10/23/80)**

Sample Number	G111	G112	Maximum
			Concentration
			Detected
<b>TOTAL METALS/INDICATORS</b>			
Alkalinity	302	699	699
Ammonia	0.1	1.5	4.5
Arsenic	0.008	0.019	0.16
Barium	0.2	0.6	2.9
Boron	0.5	5.6	5.6
Cadmium	0.0	0.06	1.5
Calcium	110	242	500
BOD	79	162	1070
Chloride	32	363	363
Chromium (Total)	0.0	0.01	0.38
Chromium (+6)	0.0	0.0	ND
Copper	0.04	1.2	2.3
Cyanide	NA	0.0	ND
Fluoride	0.3	0.6	1.2
Hardness	419	1080	1664
Iron	5.0	18	340
Lead	0.07	0.44	7.3
Magnesium	24	82.6	209
Manganese	1.1	3.9	9.8
Mercury	0.0	0.0001	0.0002
Nickel	0.0	0.3	1.9
Nitrate-Nitrite	0.6	0.0	1.1
pH	7	6.4	7
Phenolics	0.0	0.875	2.5
Phosphorus	0.24	0.69	16
Potassium	4.9	58	58
R.O.E	512	2190	2460
Selenium	0.002	0.001	0.01
Silver	0.02	0.11	0.2
Sodium	24	260	260
Sp. Conductance	490	NA	2470
Sulfate	104	518	1348
Zinc	0.0	7.8	8
<b>ORGANICS (µg/L)</b>			
PCBs	ND	ND	2.7
Chlorophenol	ND	ND	1200
Chlorobenzene	ND	100	100
Dichlorobenzene	ND	65	65
Dichlorophenol	ND	ND	890
Cyclohexanone	ND	ND	120
Chloroaniline	ND	3500	3500

mg/L - Milligrams per liter

µg/L - Micrograms per liter

ND - Not detected

NA - Not analyzed

## SAUGET Analytical Data

Dead Creek - Segment B

## MONITORING WELL SAMPLES

Total Metals/Indicators (mg/L)/Organics (µg/L)

Collected by IEPA (10/23/80)

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Sample Number	G101	G102	G103	G104	G105	G106	G107	G108	G109	G110
TOTAL METALS/INDICATORS										
Alkalinity	362	410	336	406	271	387	552	375	287	210
Ammonia	0.3	1.0	1.7	0.4	0.9	2.9	0.5	0.3	4.5	1.2
Arsenic	0.023	0.023	0.043	0.049	0.067	0.16	0.043	0.008	0.055	0.053
Barium	1.3	0.8	2.9	2.2	2.0	0.6	2.1	0.3	0.2	0.5
Boron	0.5	0.4	0.5	0.6	0.4	0.5	0.5	0.4	0.4	0.5
Cadmium	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Calcium	180	210	210	210	340	185	500	140	380	500
BOD	237	160	244	208	473	115	1070	298	275	780
Chloride	48	103	58	52	65	109	132	79	69	61
Chromium (Total)	0.04	0.02	0.09	0.04	0.12	0.01	0.07	0.0	0.0	0.38
Chromium (+6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Copper	0.46	0.13	1.1	0.31	0.73	0.44	0.68	0.04	0.13	2.3
Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride	0.4	0.7	0.7	0.3	1.0	0.7	0.7	0.3	1.2	0.8
Hardness	501	884	549	630	528	637	777	496	1664	279
Iron	81.0	30.8	86	90	18	62	13	4.1	39	340
Lead	0.10	0.15	0.26	0.2	0.31	0.0	0.27	0.0	0.0	7.3
Magnesium	0.09	90	79	72	100	49	205	24	100	209
Manganese	5.1	3.8	4.2	3.4	4.2	1.9	9.8	0.98	4.5	8
Mercury	0.0	0.0	0.0002	0.0	0.0	0.0	0.0	0.0001	0.0	0.0
Nickel	0.1	0.1	0.9	0.1	0.8	0.1	0.3	0.0	0.5	1.9
Nitrate-Nitrite	0.1	0.1	0.1	0.4	0.0	0.1	0.1	1.1	0.0	0.4
pH	6.6	6.6	6.5	6.6	6.6	6.5	6.4	6.6	6.3	6.7
Phenolics	0.0	0.01	0.0	0.005	0.0	0.065	2.5	0.01	0.45	0.015
Phosphorus	2.9	1.2	3.3	2.7	6.0	1.8	9.4	0.18	0.72	16
Potassium	10.6	13.1	13.4	12.3	22	7.7	15.2	13.7	14.9	29
R.O.E	850	1230	765	790	824	1020	1230	704	2460	508
Selenium	0.003	0.001	0.004	0.01	0.008	0.001	0.004	0.001	0.001	0.005
Silver	0.01	0.0	0.2	0.0	0.0	0.0	0.0	0.01	0.0	0.0
Sodium	24	60	40	29	57	96	NA	40	40	53
Sp. Conductance	870	1500	1050	1080	1040	1340	1430	960	2470	720
Sulfate	132	434	230	204	296	281	201	103	1348	93
Zinc	0.6	0.4	6.2	0.3	3.7	0.1	0.8	0.0	0.1	8
ORGANICS (µg/L)										
PCBs	1.0	1.2	ND	ND	ND	ND	ND	ND	ND	2.7
Chlorophenol	ND	1200	ND	ND	ND	ND	630	ND	19	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	19	ND	ND	ND
Dichlorobenzene	ND	ND	ND	ND	ND	ND	25	ND	ND	ND
Dichlorophenol	ND	ND	ND	ND	ND	ND	890	ND	ND	ND
Cyclohexanone	ND	ND	ND	ND	ND	ND	ND	ND	120	5.9
Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/L - Milligrams per liter

µg/L - Micrograms per liter

ND - Not detected

NA - Not analyzed

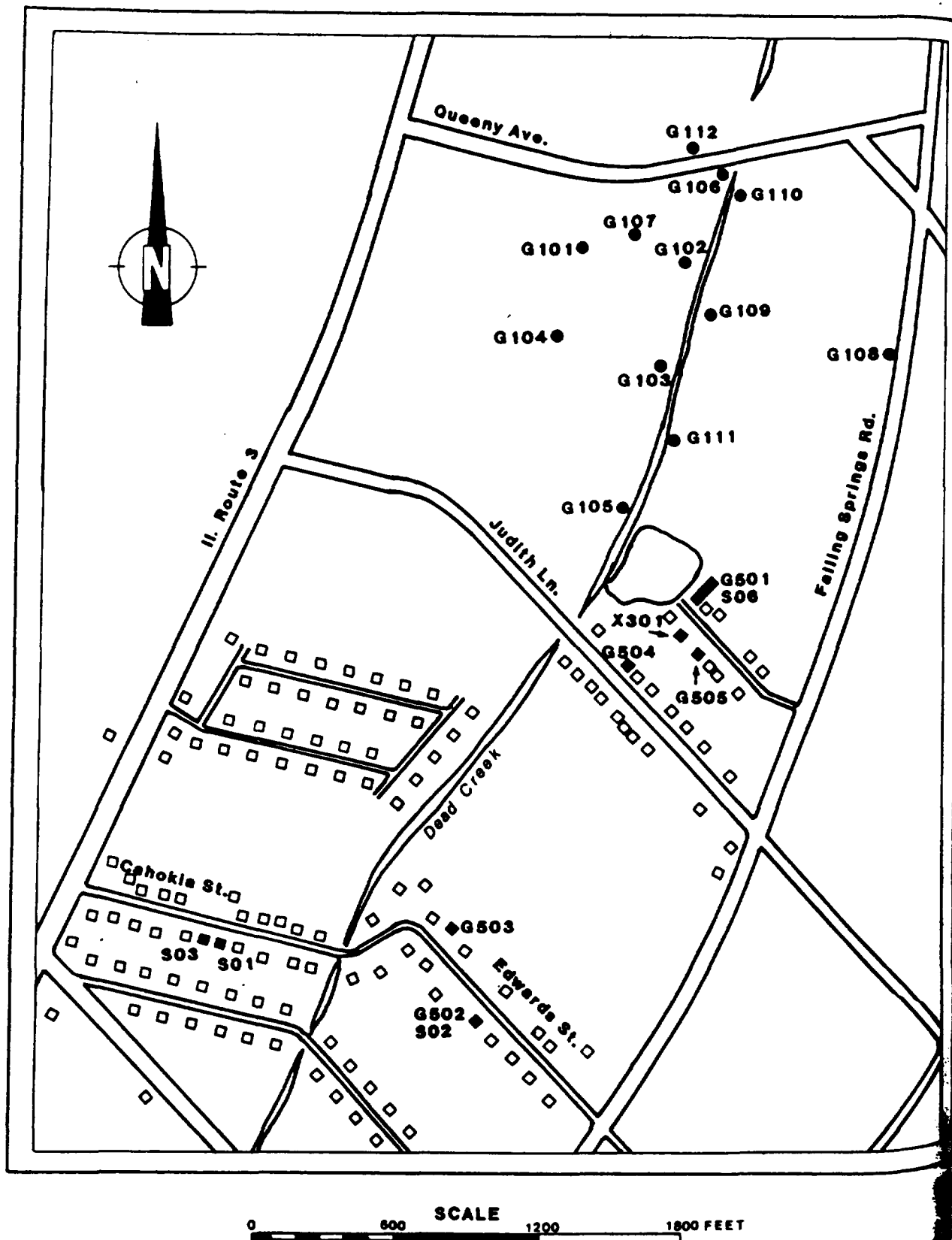


FIGURE B-2  
LOCATIONS OF IEPA MONITORING WELLS AND RESIDENTIAL  
WELLS SAMPLED IN THE VICINITY OF DEAD CREEK



**SAUGET Analytical Data  
Site G**

**GROUND WATER SAMPLES  
Volatile Organic Compounds (µg/L)  
Collected by Ecology & Environment, Inc. (3/87, 7/87)**

recycled paper

Sample Number	DC-GW-14	DC-GW-15	DC-GW-16	DC-GW-17	DC-GW-19	DC-GW-20	DC-GW-21	DC-GW-22	DC-GW-32	DC-GW-33
Well Number	EE-G101	EE-G103	EE-G104	NA	EE-G107	EE-G107	EE-05	NA	EE-11	EE-G106
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	3/18/87	3/18/87	3/18/87	3/18/87	3/24/87	03/24/87
VOC				BLANK				BLANK		
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	6 B	1 BJ	5 B	1 BJ	110 BJ	250 B	ND	2 BJ	ND	440
Acetone	ND	ND	5 BJ	14 B	620 B	550 B	ND	4 BJ	1700 B	210
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	180 J	200 J	ND	ND	ND	110
Chloroform	2 J	9	3 J	1 J	ND	ND	ND	1 J	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	480	450	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	560
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	51 J
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	320	300	ND	ND	ND	800
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1 J	ND	1 J	ND	4100	3700	2 J	3 J	460	1800
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	1900	2200	ND	ND	ND	150
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	4 J	ND	ND
Tetrachloroethene	ND	ND	ND	ND	420	350	14	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	2 J	ND	3 J	ND	7300	6300	2 J	4 J	100 BJ	83 J
Chlorobenzene	ND	5	5	1 J	3100	3100	1 J	2 J	2500	1200
Ethylbenzene	ND	ND	ND	ND	63 J	ND	ND	ND	840	ND
Styrene	ND	ND	ND	ND	50 J	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	280	240 J	ND	ND	400	ND

ecology and environment

µg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**GROUND WATER SAMPLES  
Volatile Organic Compounds (µg/L)  
Collected by Ecology & Environment, Inc. (3/87, 7/87)**

Sample Number	DC-GW-34	DC-GW-34A	DC-GW-35	DC-GW-57	Maximum
Well Number	EE-G102	EE-G102	NA	NA	Concentration
Date Collected	03/24/87	7/14/87	03/24/87	07/14/87	Detected
VOC			BLANK	BLANK	
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	2 J	ND	440
Acetone	7 BJ	ND	13 B	ND	1700 B
Carbon Disulfide	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	200 J
Chloroform	ND	ND	1 J	ND	9
1,2-Dichloroethane	ND	ND	ND	ND	480
2-Butanone (MEK)	ND	6 BJ	ND	ND	560
1,1,1-Trichloroethane	ND	ND	ND	ND	61 J
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	1 J
1,2-Dichloropropane	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	800
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	4100
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	2200
2-Hexanone	ND	ND	ND	ND	4 J
Tetrachloroethene	ND	ND	ND	ND	420
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	7300
Chlorobenzene	20	36	ND	ND	3100
Ethylbenzene	ND	ND	ND	ND	840
Styrene	ND	ND	ND	ND	50 J
Total Xylenes	ND	ND	ND	ND	400

µg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

SAUGET Analytical Data  
Site G

GROUND WATER SAMPLES  
Base Neutrals/Acids (µg/L)  
Collected by Ecology & Environment, Inc. (3/87, 7/87)

Sample Number	DC-GW-14	DC-GW-15	DC-GW-16	DC-GW-17	DC-GW-19	DC-GW-20	DC-GW-21	DC-GW-22	DC-GW-32	DC-GW-33
Well Number	EE-G101	EE-G103	EE-G104	NA	EE-G107	EE-G107	EE-05	NA	EE-11	EE-G106
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/18/87	03/18/87	03/18/87	03/18/87	03/24/87	03/24/87
BNAs				BLANK						
Phenol	ND	ND	ND	ND	6600	30000	ND	ND	ND	2 J
bis(2-Chloroethoxy)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	690	1900	ND	ND	130	9 J
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	4 J
1,4-Dichlorobenzene	ND	ND	ND	ND	570	470 J	ND	ND	34 J	350
Benzyl Alcohol	ND	ND	ND	ND	5400	8600	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	200 J	180 J	ND	ND	ND	6 J
2-Methylphenol	ND	ND	ND	ND	280 J	810	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	2200	9000	ND	ND	37 J	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	1400	4300	ND	ND	240	ND
Benzoic Acid	ND	ND	ND	ND	35000 E	150000 E	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	2400	7300	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	480 J	450 J	ND	ND	ND	11
1,2,4-Trichlorobenzene	ND	ND	ND	ND	1900	1700	ND	ND	ND	280
Naphthalene	1 J	ND	8 J	ND	21000 E	18000	ND	ND	36 J	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	15000 E	110
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	350	ND	ND	ND	3 J
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	98	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

E - Estimated value Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**GROUND WATER SAMPLES**

Base Neutrals/Acids (µg/L)

Collected by Ecology & Environment, Inc. (3/87, 7/87)

Sample Number	DC-GW-14	DC-GW-15	DC-GW-16	DC-GW-17	DC-GW-19	DC-GW-20	DC-GW-21	DC-GW-22	DC-GW-32	DC-GW-33
Well Number	EE-G101	EE-G103	EE-G104	NA	EE-G107	EE-G107	EE-05	NA	EE-11	EE-G106
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/18/87	03/18/87	03/18/87	03/18/87	03/24/87	03/24/87
<b>BNAs</b>				BLANK						
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	6 J	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	1300 J	6300	12 J	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	2 BJ	ND	ND	ND	ND	10 B	ND	ND	12 B
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	32	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	24	ND	ND	ND	10 B	4 BJ	ND	4 BJ
Chrysene	6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	2 BJ
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

E - Estimated value. Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

SAUGET Analytical Data  
Site G

GROUND WATER SAMPLES

Base Neutrals/Acids (µg/L)

Collected by Ecology & Environment, Inc. (3/87, 7/87)

Sample Number Well Number	DC-GW-34 EE-G102	DC-GW-34A EE-G102	DC-GW-35 NA	DC-GW-57 NA	Maximum Concentration
Date Collected	03/24/87	07/14/87	03/24/87	07/14/87	Detected
BNAs				BLANK	
Phenol	ND	ND	ND	ND	30000
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	1900
1,3-Dichlorobenzene	ND	ND	ND	ND	4 J
1,4-Dichlorobenzene	ND	ND	ND	ND	570
Benzyl Alcohol	ND	ND	ND	ND	8600
1,2-Dichlorobenzene	ND	ND	ND	ND	200 J
2-Methylphenol	ND	ND	ND	ND	810
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	9000
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	4300
Benzoic Acid	ND	ND	ND	ND	150000 E
bis(2-Chloroethoxy)methane	ND	ND	ND	ND	7300
2,4-Dichlorophenol	ND	ND	ND	ND	480 J
1,2,4-Trichlorobenzene	ND	ND	ND	ND	1900
Naphthalene	ND	ND	ND	ND	21000 E
4-Chloroaniline	ND	ND	ND	ND	15000 E
Hexachlorobutadiene	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	350
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	98
Acenaphthylene	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

E - Estimated value Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**GROUND WATER SAMPLES  
Base Neutrals/Acids (µg/L)  
Collected by Ecology & Environment, Inc. (3/87, 7/87)**

Sample Number	DC-GW-34	DC-GW-34A	DC-GW-35	DC-GW-57	Maximum
Well Number	EE-G102	EE-G102	NA	NA	Concentration
Date Collected	03/24/87	07/14/87	03/24/87	07/14/87	Detected
<b>BNAs</b>				BLANK	
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	6 J
Pentachlorophenol	ND	ND	ND	ND	6300
Phenanthrene	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	6 BJ	ND	12 B
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	32
bis(2-ethylhexyl)phthalate	ND	ND	2 BJ	ND	24
Chrysene	ND	ND	ND	ND	6
Di-n-octyl phthalate	ND	ND	3 BJ	ND	3 BJ
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

E - Estimated value Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site G**

**GROUND WATER SAMPLES  
Total Metals (µg/L)  
Collected by Ecology & Environment, Inc. (3/87, 7/87)**

Sample Number	DC-GW-14	DC-GW-15	DC-GW-16	DC-GW-17	DC-GW-19	DC-GW-20	DC-GW-21	DC-GW-22	DC-GW-32	DC-GW-33
Sample Depth (ft)	EE-G101	EE-G103	EE-G104	NA	EE-G107	EE-G107	EE-05	NA	EE-11	EE-G106
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/18/87	03/18/87	03/18/87	03/18/87	03/24/87	03/24/87
<b>Total Metals</b>				BLANK						
<b>Aluminum</b>	ND	ND	ND	ND	ND	ND	ND	ND	85	ND
<b>Antimony</b>	ND	63 R	ND	ND	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>	ND	ND	ND	ND	14	12	ND	ND	179	34
<b>Barium</b>	219	ND	ND	ND	610	580	ND	ND	ND	192
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	ND	ND	ND	ND	22 R	22 R	ND	ND	ND	ND
<b>Chromium</b>	ND	ND	ND	ND	24	23	ND	ND	ND	41
<b>Cobalt</b>	ND	ND	ND	ND	588	572	ND	ND	ND	ND
<b>Copper</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Iron</b>	1280	1150	1110	ND	247000	241000	ND	ND	43800	49500
<b>Lead</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Manganese</b>	2230	242	103	ND	7240	6850	286	ND	2290	3940
<b>Mercury</b>	1.4	2.1	ND	ND	ND	ND	ND	ND	ND	ND
<b>Nickel</b>	ND	ND	ND	ND	349	328	ND	ND	ND	37
<b>Selenium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	ND	ND	ND	ND	93	94	ND	ND	ND	ND
<b>Zinc</b>	31	42	24	ND	1910	1820	26	ND	129	58
<b>Cyanide</b>	157	101	ND	ND	ND	ND	350	ND	26	ND

µg/L - Micrograms per liter

ND - Not detected

R - Spike sample recovery not within control limits

**SAUGET Analytical Data  
Site G**

**GROUND WATER SAMPLES  
Total Metals (µg/L)  
Collected by Ecology & Environment, Inc. (3/87, 7/87)**

	Sample Number	DC-GW-34	DC-GW-34A	DC-GW-35	DC-GW-57	Maximum
	Sample Depth (ft)	EE-G102	EE-G102	NA	NA	Concentration
	Date Collected	03/24/87	07/14/87	03/24/87	07/14/87	Detected
<b>Total Metals</b>					BLANK	
<b>Aluminum</b>		ND	ND	ND	ND	<b>85</b>
<b>Antimony</b>		ND	ND	ND	ND	<b>63 R</b>
<b>Arsenic</b>		<b>27</b>	ND	ND	ND	<b>179</b>
<b>Barium</b>		<b>48</b>	<b>[51]</b>	ND	ND	<b>610</b>
<b>Beryllium</b>		ND	ND	ND	ND	ND
<b>Boron</b>		ND	ND	ND	ND	ND
<b>Cadmium</b>		ND	ND	ND	ND	<b>22 R</b>
<b>Chromium</b>		ND	ND	ND	ND	<b>41</b>
<b>Cobalt</b>		ND	<b>[10]</b>	ND	ND	<b>588</b>
<b>Copper</b>		ND	ND	ND	ND	ND
<b>Iron</b>		<b>3850</b>	<b>2880</b>	<b>111</b>	<b>[87]</b>	<b>247000</b>
<b>Lead</b>		ND	ND	ND	ND	ND
<b>Manganese</b>		<b>1460</b>	<b>1510</b>	ND	ND	<b>7240</b>
<b>Mercury</b>		ND	ND	ND	ND	<b>2.1</b>
<b>Nickel</b>		<b>72</b>	ND	ND	ND	<b>349</b>
<b>Selenium</b>		ND	ND	ND	ND	ND
<b>Silver</b>		ND	ND	ND	ND	ND
<b>Thallium</b>		ND	ND	ND	ND	ND
<b>Tin</b>		ND	ND	ND	ND	ND
<b>Vanadium</b>		ND	ND	ND	ND	<b>94</b>
<b>Zinc</b>		<b>14</b>	<b>31</b>	<b>10</b>	ND	<b>1910</b>
<b>Cyanide</b>		ND	ND	ND	ND	<b>350</b>

µg/L - Micrograms per liter

ND - Not detected

R - Spike sample recovery not within control limits.



**SAUGET Analytical Data  
Site H**

**GROUND WATER SAMPLES  
Volatile Organic Compounds (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)**

recycled paper

ecology and environment

Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	3/24/87	3/24/87	Detected
VOC					BLANK	BLANK		
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	140 J	18 J	68	1 BJ	2 J	ND	140 J
Acetone	170 BJ	910 BJ	8 J	9 BJ	14 B	13 B	ND	910 BJ
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	3000	ND	ND	1 J	1 J	ND	3000
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1900	4300	2 J	ND	ND	ND	1 J	4300
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	140 J	3600	ND	ND	ND	ND	ND	3600
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	48 J	7300	ND	ND	ND	ND	ND	7300
Chlorobenzene	1600	11000	11	ND	1 J	ND	8	11000
Ethylbenzene	210	ND	1 J	ND	ND	ND	ND	210
Styrene	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	64 J	120 J	ND	ND	ND	ND	ND	120 J

µg/L - Micrograms per liter

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

**SAUGET Analytical Data  
Site H**

**GROUND WATER SAMPLES  
Base Neutrals/Acids (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	03/24/87	03/24/87	Detected
<b>BNAs</b>					BLANK	BLANK		
Phenol	66	950	ND	ND	ND	ND	ND	950
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	31 J	47 J	ND	ND	ND	ND	ND	47 J
1,3-Dichlorobenzene	120	ND	ND	ND	ND	ND	ND	120
1,4-Dichlorobenzene	2600	530	11	ND	ND	ND	ND	2600
Benzyl Alcohol	ND	740	ND	ND	ND	ND	ND	740
1,2-Dichlorobenzene	560	430	3	ND	ND	ND	ND	560
2-Methylphenol	26 J	70 J	ND	ND	ND	ND	ND	70 J
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	65	620	ND	ND	ND	ND	ND	620
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	97 J	ND	ND	ND	ND	ND	97 J
Isophorone	ND	110 J	ND	ND	ND	ND	ND	110 J
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	330	ND	ND	ND	ND	ND	330
Benzoic Acid	140 J	5800 E	ND	ND	ND	ND	ND	5800 E
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	1900	ND	ND	ND	ND	ND	1900
1,2,4-Trichlorophenol	580	720	ND	ND	ND	ND	ND	720
Naphthalene	250	240	ND	ND	ND	ND	ND	250
4-Chloroaniline	6400 E	810	200	ND	ND	ND	30	6400 E
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	21 J	47 J	ND	ND	ND	ND	ND	47 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	140	1200	ND	ND	ND	ND	ND	1200
2,4,5-Trichlorophenol	27 J	580 J	ND	ND	ND	ND	ND	580 J
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	8 J	ND	ND	ND	ND	ND	8 J
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank sample

E - Estimated value Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected.

**SAUGET Analytical Data  
Site H**

**GROUND WATER SAMPLES  
Base Neutrals/Acids (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	03/24/87	03/24/87	Detected
<b>BNAs</b>					BLANK			
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	6 J	ND	ND	ND	ND	ND	ND	6 J
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	22 J	ND	ND	ND	ND	ND	22 J
4-Chlorophenyl-Phenylether	20 J	ND	ND	ND	ND	ND	ND	20 J
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	800	ND	ND	ND	ND	ND	ND	800
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	650	ND	ND	ND	ND	ND	ND	650
Phenanthrene	15 J	ND	ND	ND	ND	ND	ND	15 J
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	ND	ND	6 BJ	ND	6 BJ
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	24 J	ND	ND	ND	2 BJ	ND	24 J
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	3 BJ	ND	3 BJ
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank sample

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected.

**SAUGET Analytical Data  
Site H**

**GROUND WATER SAMPLES**

**Pesticides/PCBs (µg/L)**

**Collected by Ecology & Environment, Inc. (3/87)**

	Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
	Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
	Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	03/24/87	03/24/87	Detected
<b>Pesticides/PCBs</b>						BLANK	BLANK		
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260		52	ND	ND	ND	ND	ND	ND	52

µg/L - Micrograms per liter

ND - Not detected

**SAUGET Analytical Data  
Site H**

**GROUND WATER SAMPLES  
Total Metals (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	03/24/87	03/24/87	Detected
Total Metals					BLANK			
Aluminum	ND	11800	ND	ND	ND	ND	ND	11800
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	ND	8490	26	ND	ND	ND	ND	8490
Barium	ND	ND	ND	ND	ND	ND	173	173
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	70 R	ND	ND	ND	ND	ND	70 R
Chromium	ND	24	ND	ND	ND	ND	ND	24
Cobalt	ND	758	ND	ND	ND	ND	ND	758
Copper	ND	2410	ND	ND	ND	ND	ND	2410
Iron	29800	104000	34900	ND	ND	111	2180	104000
Lead	ND	28 R	ND	ND	ND	ND	ND	28 R
Manganese	907	8020	1030	1800	ND	ND	274	8020
Mercury	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	261	17200	ND	ND	ND	ND	111	17200
Selenium	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Tin	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	57	6840	25	24	ND	10	53	6840
Cyanide	480	21	ND	ND	ND	ND	ND	480

µg/L - Micrograms per liter.

ND - Not Detected

R - Spike sample recovery not within control limits.

SAUGET Analytical Data  
Site I

GROUND WATER SAMPLES  
Volatile Organic Compounds (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)

Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum Concentration Detected
Well Number	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	
Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	3/23/87	3/23/87	3/23/87	3/23/87	
VOC								BLANK		
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	5 J	ND	76	790	6 J	ND	ND	790
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	56 J	2 J	ND	ND	2 J	ND	56
Acetone	29 B	40 B	17 B	190 J	10 B	190 B	16 B	23 B	29 B	190 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	10	ND	ND	ND	ND	10
1,1-Dichloroethane	ND	ND	ND	ND	120	ND	ND	ND	ND	120
trans-1,2-Dichloroethane	ND	ND	ND	150	310	640	ND	ND	ND	640
Chloroform	ND	ND	ND	110 J	ND	ND	ND	ND	ND	110 J
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEX)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	270	4 J	ND	ND	ND	ND	270
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	1400	6	560	75	ND	ND	1400
Benzene	ND	60	28	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	230 J	ND	ND	ND	ND	ND	230 J
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	470	ND	ND	ND	ND	ND	470
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	240	ND	740	1 J	ND	ND	740
Chlorobenzene	ND	270	33	3100	120	560	390	ND	ND	3100
Ethylbenzene	ND	ND	1 J	190	ND	58	2 J	ND	ND	190
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	61 J	ND	58	ND	ND	ND	61 J

µg/L - Micrograms per liter.  
B - Compound detected in blank sample.  
J - Estimated value.  
ND - Not detected.

**SAUGET Analytical Data  
Site I**

**GROUND WATER SAMPLES  
Base Neutrals/Acids (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum .
Well Number	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	Detected
<b>BNAs</b>								BLANK		
Phenol	ND	ND	ND	1800	ND	80	ND	ND	ND	1800
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	5 J	ND	370	ND	ND	ND	ND	ND	370
1,3-Dichlorobenzene	ND	110	ND	ND	ND	ND	110	ND	ND	110
1,4-Dichlorobenzene	ND	640	ND	910	10	110	830	ND	ND	910
Benzyl Alcohol	ND	ND	ND	230 J	ND	360	ND	ND	ND	350
1,2-Dichlorobenzene	ND	110	ND	220 J	4 J	15 J	110	ND	ND	220 J
2-Methylphenol	ND	ND	ND	89 J	ND	76	ND	ND	ND	89 J
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	360	ND	ND	ND	ND	ND	350
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	2 J	ND	2900	ND	ND	ND	ND	ND	2900
2,4-Dichlorophenol	ND	22	ND	1000	ND	ND	ND	ND	ND	1000
1,2,4-Trichlorobenzene	ND	ND	ND	2700	ND	ND	ND	ND	ND	2700
Naphthalene	ND	ND	ND	57 J	ND	230	ND	ND	ND	230
4-Chloroaniline	ND	140	14	8300	18	9600 E	78	ND	ND	9600 E
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	140 J	ND	ND	ND	ND	ND	140 J
2-Methylnaphthalene	ND	1 J	ND	ND	ND	9 J	ND	ND	ND	9
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	290	ND	ND	ND	ND	ND	290
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected.

**SAUGET Analytical Data  
Site I**

**GROUND WATER SAMPLES  
Base Neutrals/Acids (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)**

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Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum
Well Number	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	Detected
<b>BNA's</b>								BLANK		
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	23 B	ND	13 B	140 B	ND	13 B	8 BJ	140 B
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	25 J	ND	ND	ND	25 J
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	6 J	2400	7 J	60 J	ND	ND	ND	2400
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	2 BJ	ND	ND	ND	ND	2
Di-n-butyl phthalate	2 JB	7 BJ	2 JB	ND	ND	ND	ND	2 JB	4 BJ	7 BJ
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	2 JB	5 BJ	3 JB	ND	2	20 BJ	ND	2 JB	3 BJ	20 BJ
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	1 J	1 J
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected.



**SAUGET Analytical Data  
Site I**

**GROUND WATER SAMPLES  
Total Metals (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum
Sample Depth (ft)	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	Detected
<b>Total Metals</b>								BLANK		
<b>Aluminum</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Antimony</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Arsenic</b>	12	ND	20	16	12	ND	ND	ND	ND	20
<b>Barium</b>	ND	ND	223	ND	ND	956	ND	ND	ND	956
<b>Beryllium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Cadmium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Chromium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Cobalt</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Copper</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Iron</b>	25400	23300	10800	24100	10500	9540	24900	107	124	25400
<b>Lead</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Manganese</b>	1620	1650	1650	1260	1270	1760	1680	ND	ND	1760
<b>Mercury</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Nickel</b>	ND	ND	ND	96	ND	ND	ND	ND	ND	96
<b>Selenium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Vanadium</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Zinc</b>	ND	ND	ND	26	26	ND	ND	ND	ND	26
<b>Cyanide</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

ND - Not detected.

**SAUGET Analytical Data**  
**Site I**

**GROUND WATER SAMPLES**  
**Pesticides/PCBs (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum
Well Number	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	Detected
Pesticides/PCBs								BLANK		
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.  
 ND - Not detected.

SAUGET Analytical Data  
Site L

GROUND WATER SAMPLES  
Volatile Organic Compounds (µg/L)  
Collected by Ecology & Environment, Inc. (3/87)

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Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
Well Number	EE-G108	NA	NA	EE-G109	Concentration
Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
VOC		BLANK	BLANK		
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	ND	2 BJ	2 BJ	44 J	44 J
Acetone	ND	4 BJ	13 B	650 B	650 B
Carbon Disulfide	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	1 J	1 J	730	730
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	1 J	3 J	ND	150	150
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	270 B	270 B
2-Hexanone	ND	4 J	ND	ND	4 J
Tetrachloroethene	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	ND	4 J	ND	970 B	970 B
Chlorobenzene	1 J	2 J	ND	ND	2 J
Ethylbenzene	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND

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µg/L - Micrograms per liter.  
B - Compound detected in blank sample.  
J - Estimated value.  
ND - Not detected.

**SAUGET Analytical Data**  
**Site L**

**GROUND WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
Well Number	EE-G108	NA	NA	EE-G109	Concentration
Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
<b>BNAs</b>		BLANK	BLANK		
Phenol	ND	ND	ND	180	180
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	130	130
1,3-Dichlorobenzene	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	6 J	6 J
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	75	75
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	41	41
2,4-Dichlorophenol	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	60	60
Hexachlorobutadiene	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

B - Compound detected in blank sample.

J - Estimated value.

ND - Not detected.

**SAUGET Analytical Data**  
**Site L**

**GROUND WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

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Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
Well Number	EE-G108	NA	NA	EE-G109	Concentration
Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
<b>BNAs</b>		BLANK	BLANK		
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND
Di-n-butyl phthalate	9 BJ	ND	6 BJ	6 BJ	9 BJ
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	18 B	4 BJ	2 BJ	ND	18 B
Chrysene	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	3 BJ	ND	3 BJ
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

B - Compound detected in blank sample.

J - Estimated value.

ND - Not detected.

**SAUGET Analytical Data  
Site L**

**GROUND WATER SAMPLES**

Total Metals (µg/L)

Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
	Well Number	EE-G108	NA	NA	EE-G109	Concentration
	Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
<b>Total Metals</b>			BLANK	BLANK		
<b>Aluminum</b>		ND	ND	ND	ND	ND
<b>Antimony</b>		ND	ND	ND	ND	ND
<b>Arsenic</b>		ND	ND	ND	14000	14000
<b>Barium</b>		331	ND	ND	ND	331
<b>Beryllium</b>		ND	ND	ND	ND	ND
<b>Boron</b>		ND	ND	ND	ND	ND
<b>Cadmium</b>		ND	ND	ND	32	32
<b>Chromium</b>		ND	ND	ND	ND	ND
<b>Cobalt</b>		ND	ND	ND	84	84
<b>Copper</b>		ND	ND	ND	ND	ND
<b>Iron</b>		21900	ND	111	523000	523000
<b>Lead</b>		ND	ND	ND	ND	ND
<b>Manganese</b>		1280	ND	ND	7660	7660
<b>Mercury</b>		ND	ND	ND	ND	ND
<b>Nickel</b>		ND	ND	ND	ND	ND
<b>Selenium</b>		ND	ND	ND	ND	ND
<b>Silver</b>		ND	ND	ND	ND	ND
<b>Thallium</b>		ND	ND	ND	ND	ND
<b>Tin</b>		ND	ND	ND	ND	ND
<b>Vanadium</b>		ND	ND	ND	159	159
<b>Zinc</b>		24	ND	10	2210	2210
<b>Cyanide</b>		ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

ND - Not detected.

**SAUGET Analytical Data**  
**Site L**

**GROUND WATER SAMPLES**  
**Pesticides/PCBs (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
Well Number	EE-G108	NA	NA	EE-G109	Concentration
Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
<b>Pesticides/PCBs</b>		BLANK	BLANK		
Alpha-BHC	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

ND - Not detected.

**SAUGET Analytical Data  
Site Area 1**

**GROUNDWATER SAMPLES**

Collected by IEPA

	Sample Number	G111	G112	G112	Maximum
	Date Collected	03/10/81	03/10/81	03/31/81	Concentration
Analysis					Detected
Alkalinity		387	400	489	657
Ammonia as N		0.1	0.7	0.7	15
Arsenic		0.001	0.003	0.004	3.9
Barium		0.1	0	0.2	0.3
BOD		1	10	3	335
Boron		0.4	3.4	3.7	3.7
Cadmium		0	0.17	0.19	0.19
Calcium		164	207	270	431
COD		9	52	55	930
Chloride		16	133	227	235
Chromium (total)		0	0	0	0.01
Copper		0.07	0.48	0.44	67
Cyanide		0	0	0	0.01
Fluoride		0.5	0.8	0.7	7.7
Hardness		485	789	880	1651
Iron		0.2	0.5	1.2	9.4
Lead		0.07	0	0	0.07
Magnesium		31.8	72	81	138
Manganese		1.02	2.1	2.74	6.22
Mercury		0.0001	0.0001	0	0.0003
Nickel		0	0.4	0.3	123
Nitrate-Nitrite		2.7	0.2	0.1	15
Oil & Grease		1	1	0	2
pH (units)		6.8	6.6	6.3	7
Phenolics		0	0.005	0.01	1.7
Phosphorus		0.01	0.03	0.03	2.2
Potassium		2.9	40.2	480	480
R.O.E		656	1530	NTA*	3580
Selenium		0.001	0	0.001	0.018
Silver		0.01	0.01	0	0.02
Sodium		15.5	966	164	966
SC (µmhos/cm)		990	2040	2490	3440
Sulfate SO4		147	544	554	2529
Zinc		0.1	11.8	14.7	14.7
Sulfide		0	0.07	0	0.07
PCB (µg/L)		<0.1	2	NA	3.4

µg/L - Micrograms per liter.

NTA\* - Sample Discarded Prematurely

Units were not provided with original data



**SAUGET Analytical Data  
Site Area 1**

**GROUNDWATER SAMPLES**

Collected by IEPA

recycled paper

Sample Number	G101	G102	G103	G104	G105	G106	G107	G108	G109	G110
Date Collected	03/11/81	03/10/81	03/10/81	03/10/81	03/10/81	03/11/81	03/11/81	03/10/81	03/11/81	03/10/81
Analysis										
Alkalinity	483	484	319	568	393	594	657	484	58	331
Ammonia as N	0.2	0	0.5	0	0.1	NR	0.2	0	15	0
Arsenic	0.001	0	0.003	0.001	0.01	0.085	0.004	0.001	3.9	0.001
Barium	0	0.2	0.1	0.2	0.2	0.3	0.1	0.2	0.1	0.1
BOD	1	1	1	1	2	19	39	1	335	1
Boron	0.2	0.4	0.3	0.7	0.3	0.5	0.5	0.2	0.5	0.1
Cadmium	0	0.01	0.01	0	0	0	0.01	0	0.07	0.01
Calcium	154	333	161	205	218	175	186	148	431	121
COD	10	24	47	9	23	146	47	12	930	10
Chloride	16	124	46	28	57	150	235	51	24	27
Chromium (total)	0	0	0	0.01	0	0	0	0	0.01	0
Copper	0.04	0.06	0.08	0.02	0.02	0.01	0.01	0.03	67	0.02
Cyanide	0	0	0	0.01	0	0	0	0	0	0
Fluoride	0.5	0.9	0.8	0.3	0.6	0.7	0.7	0.3	7.7	2.7
Hardness	542	1062	620	839	796	675	1096	474	1651	424
Iron	0.3	0.3	1.6	0	9.4	4.9	2.4	0	1.4	0
Lead	0	0	0	0	0	0.06	0	0	0	0
Magnesium	34.2	77.9	41.9	56.8	47	44.8	44.8	22.3	138	28.7
Manganese	2	2.98	3.51	0.61	2.32	1.62	2.12	0.23	6.22	0.14
Mercury	0.0001	0.0001	0.0001	0.0001	0.0001	0	0.0002	0.0001	0.0003	0.0001
Nickel	0	0.3	1.1	0	0.2	0	0	0.1	123	1.2
Nitrate-Nitrite	0	1.1	0	2.3	0	0	0	0.3	0.3	15
Oil & Grease	1	1	0	2	2	2	1	1	1	1
pH (units)	6.7	6.8	6.8	6.9	6.8	6.7	6.7	7	4.6	6.6
Phenolics	0	0	0.005	0	0	0	1.7	0.1	1.4	0
Phosphorus	0	0	0.03	0.02	0.1	1.5	0.03	0.02	2.2	0.01
Potassium	4	10.8	10.4	5.9	8.9	5.7	2.8	18.2	6.4	6.3
R.O.E	676	1660	1070	1200	1090	1100	1610	650	3880	558
Selenium	0	0	0.001	0.003	0	0	0	0.001	0.003	0.018
Silver	0.01	0.02	0	0	0.02	0.01	0.01	0	0	0.01
Sodium	11	64	65.6	17.4	51.2	92.6	39.2	25.2	12	14.2
SC (µmhos/cm)	1050	2150	1470	1550	1620	1820	2290	1060	3440	920
Sulfate SO4	118	617	407	303	466	146	31.3	55	2629	61
Zinc	0.1	0.8	2.8	0.1	0.3	0.1	0.1	0.3	6.3	1.8
Sulfide	0	0	0	0	0	0	0	0	0	0
PCB (µg/L)	0.13	0.46	<0.1	0.1	<0.1	3.4	0.37	<0.1	<0.1	0.9

µg/L - Micrograms per liter.

NR - Not Readable on original data

Units were not provided with original data

**SAUGET Analytical Data**  
**Site Area 1**

**GROUNDWATER SAMPLES**

Collected by IEPA

	Sample Number	G111	G112	Maximum
	Date Collected	01/28/81	01/28/81	Concentration
Analysis				Detected
Alkalinity		394	619	619
Ammonia as N		0.1	0.5	17
Arsenic		0.014	0.027	7.5
Barium		0.7	0.5	3.2
BOD		2	10	390
Boron		0.6	1.9	1.9
Cadmium		0	0	0.14
Calcium		181.4 <sup>*</sup>	198.3	1169.5
COD		28	47	1315
Chloride		18	210	210
Chromium (total)		0.02	0	0.09
Copper		0.04	0.28	84.1
Cyanide		0	0.01	0.01
Hardness		530	486	2144
Iron		10.7	18.9	198
Lead		0	0	0.32
Magnesium		37.9	64	288.1
Manganese		1.76	2.78	9.64
Mercury		0	0	0.0004
Nickel		0	0	176
Nitrate-Nitrite		0.5	0	18
pH (units)		7	6.9	7.2
Phenolics		0.015	0.05	1.86
Phosphorus		0.51	0.53	10
Potassium		4.2	20	20
R.O.E		416	1340	5610
Selenium		0.002	0	0.016
Silver		0	0	ND
Sodium		14	18	94
Sulfate SO <sub>4</sub>		153	212	3371
Zinc		0.1	2.8	10.1
PCB (µg/L)		<0.1	<0.1	3.9
Chlorobenzene (µg/L)		NA	25	63
Chloroaniline (µg/L)		NA	21	90
Dichlorophenol (µg/L)		NA	NA	580

µg/L - Micrograms per liter.

NA - Parameter not analyzed

ND - Not detected.

NR - Not readable on original data

Units were not provided with original data

**SAUGET Analytical Data**  
**Site Area 1**

**GROUNDWATER SAMPLES**

Collected by IEPA

Sample Number	G101	G102	G103	G104	G105	G106	G107	G108	G109	G110
Date Collected	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81
<b>Analysis</b>										
Alkalinity	447	421	286	520	383	556	NR	448	18	NR
Ammonia as N	0.3	0	1.4	0.2	0.7	3.3	NR	0	17	0.2
Arsenic	0.016	0.016	0.018	0.002	0.037	0.11	0.021	0.004	7.5	0.013
Barium	0.9	1.2	0.9	0.3	1.8	1	3.2	0.5	0.2	1
BOD	1	3	0	2	0	41	52	1	390	0
Boron	0.3	0.4	0.4	0.7	0.4	0.5	0.5	0.2	0.8	0
Cadmium	0	0	0	0	0	0	0	0	0.14	0
Calcium	220	328.9	176.3	218	319.2	225.5	1169.5	205.5	486.7	169.4
COD	45	93	56	9	143	212	635	8	1315	37
Chloride	20	128	64	29	59	156	201	76	NR	NR
Chromium (total)	0.02	0.02	0.02	0	0.03	0	0.09	0	0.04	0.02
Copper	0.59	0.79	0.36	0.14	0.43	0.29	0.97	0	94.1	0.11
Cyanide	0	0	0	0	0.01	0	0	0	0	0
Hardness	554	1072	490	717	164	617	960	564	2144	447
Iron	30.4	16.5	20.8	1.4	60.8	67.5	172	0.3	198	19.1
Lead	0.17	0.08	0	0	0.07	0	0.32	0	0	0
Magnesium	48.2	78	46.3	49.1	73.6	49.1	288.1	34.3	184.4	43.5
Manganese	3.02	3.15	3.07	1.41	4.1	2.13	9.64	0.34	8.3	0.77
Mercury	0	0	0	0	0	0	0	0	0.0004	0
Nickel	0.1	0.1	0.4	0	0.2	0	0.5	0	176	0.9
Nitrate-Nitrite	0	2.5	0.1	0.5	0	0	0.2	3.5	0.3	18
pH (units)	7	7	7.1	7.2	7	6.9	6.9	7.1	4.1	6.9
Phenolics	0	0	0	0	0	1.46	0.5	0.01	1.86	0.02
Phosphorus	0.91	0.88	0.41	0.06	3.6	2.1	10	0.03	3.7	1
Potassium	6.4	12	8.8	6	13	6.2	20	16	18	7.5
R.O.E	697	1560	782	940	1170	1080	1450	786	5610	587
Selenium	0.002	0.002	0.002	0.002	0.003	0.002	0.011	0.004	0.006	0.016
Silver	0	0	0	0	0	0	0	0	0	0
Sodium	13	63	48	15	50	94	60	30	37	13
Sulfate SO4	129	583	256	265	488	143	276	86	3371	57
Zinc	0.3	1.2	1.8	0.1	1.5	0.1	1.5	0	10.1	2
PCB (µg/L)	0.22	3.9	<0.1	0.3	<0.1	<0.1	0.4	<0.1	<0.1	<0.1
Chlorobenzene (µg/L)	NA	NA	NA	NA	NA	NA	63	NA	ND	NA
Chloroaniline (µg/L)	NA	NA	NA	NA	NA	NA	90	NA	NA	NA
Dichlorophenol (µg/L)	NA	NA	NA	NA	NA	NA	560	NA	NA	NA

µg/L - Micrograms per liter.

NA - Parameter not analyzed.

ND - Not detected.

NR - Not readable on original data

Units were not provided with original data

SAUGET Analytical Data  
Dead Creek - Segment B

WATER SAMPLES

Collected by IEPA and Monsanto Chemical Co. (10/80)

recycled paper

Sample Number	0100307				Maximum
Date Collected	10/2/80				Concentration
Location	Well at Threasa's				Detected
PCBs and Elemental Phosphorus (µg/L)	Greenhouse 101 Walnut				
PCB's (Cl <sub>2</sub> to Cl <sub>6</sub> Homologs)	ND<1				ND
P <sub>4</sub>	NA				NA

µg/L - Micrograms per liter.

NA - Not Analyzed

ND - Not detected

ecology and environment

SAUGET Analytical Data  
Sauget Sites Area 1

MONITORING WELL SAMPLES  
Total Metals (mg/l)  
Collected by IEPA

Metals	Sample Number Date Collected	G501 9/16/80	G502 9/16/80	G503 9/16/80	G504 9/23/80	G505 6/8/83	X301 1/5/83	Maximum Concentration Detected
Arsenic		0.008	0.004	0.001	ND	0.01	0.017	0.017
Barium		0.2	0.16	0.39	0.05	0.4	1.1	1.1
Boron		0.28	0.27	0.25	0.58	0.4	0.3	0.58
Cadmium		ND	ND	ND	ND	ND	ND	ND
Chromium Total		ND	ND	ND	ND	ND	ND	ND
Copper		0.02	ND	ND	0.06	0.01	0.08	0.08
Iron		4.6	19	17.7	0.73	26	31	31
Lead		ND	ND	ND	ND	ND	0.08	0.08
Magnesium		33	39	36	30	36.3	54	54
Manganese		1.02	1.26	0.79	0.65	1.3	1.49	1.49
Mercury		ND	ND	ND	0.0001	ND	ND	0.0001
Nickel		ND	ND	ND	0.02	ND	0.1	0.1
Phosphorus		ND	ND	ND	0.02	0.62	1.2	1.2
Potassium		6.6	5.7	4.5	6	6.2	6.4	6.6
Silver		ND	ND	ND	ND	ND	ND	ND
Sodium		21	24	12	26	15.2	19	26
Zinc		0.85	ND	0.18	0.8	ND	0.7	0.85

mg/kg - Milligrams per kilogram.

ND - Not detected.

Sample X301 was collected from basement seepage

**SAUGET Analytical Data  
Sauget Sites Area 1**

**MONITORING WELL SAMPLES  
Pesticides/PCBs (mg/l)  
Collected by IEPA**

	Sample Number	G501	G502	G503	G504	G505	X301	Maximum
	Date Collected	9/16/80	9/16/80	9/16/80	9/23/80	6/8/83	1/5/83	Concentration
Pesticides/PCBs								Detected
PCBs		NA	NA	NA	ND	ND	ND	ND
Chlordane (ppb)		NA	NA	NA	NA	ND	0.13	0.13

mg/kg - Milligrams per kilogram.

NA - Parameter not analyzed.

ND - Not detected.

ppb - Parts per billion

Sample X301 was collected from basement seepage

**SAUGET Analytical Data**  
Sauget Sites Area 1

**GROUNDWATER SAMPLES (µg/L)**

Collected by IEPA

Sample Number Well Number Date Collected	G204 H. KEARBY 3/91	G201 B. SETTLE 3/91	G205 W. ALLEN 3/91	Maximum Concentration Detected
<b>VOLATILES</b>				
Chlorobenzene	ND	ND	ND	ND
<b>SEMIVOLATILES</b>				
Pyrene	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND
<b>PESTICIDES/PCB's</b>				
4,4'-DDE	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
Gamma-Chlorodane	ND	ND	6.02	6.02
Aroclor-1254	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND
<b>INORGANICS</b>				
Arsenic	ND	ND	ND	ND
Barium	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND
Calcium	ND	ND	11900	11900
Chromium	ND	ND	ND	ND
Cobalt	ND	6.2	ND	6.2
Copper	ND	ND	76	76
Lead	3.3	ND	11	11
Magnesium	ND	ND	ND	ND
Mercury	ND	ND	ND	ND
Nickel	ND	ND	ND	ND
Zinc	38	680	655	655

µg/L - Micrograms per liter.  
ND - Not detected.

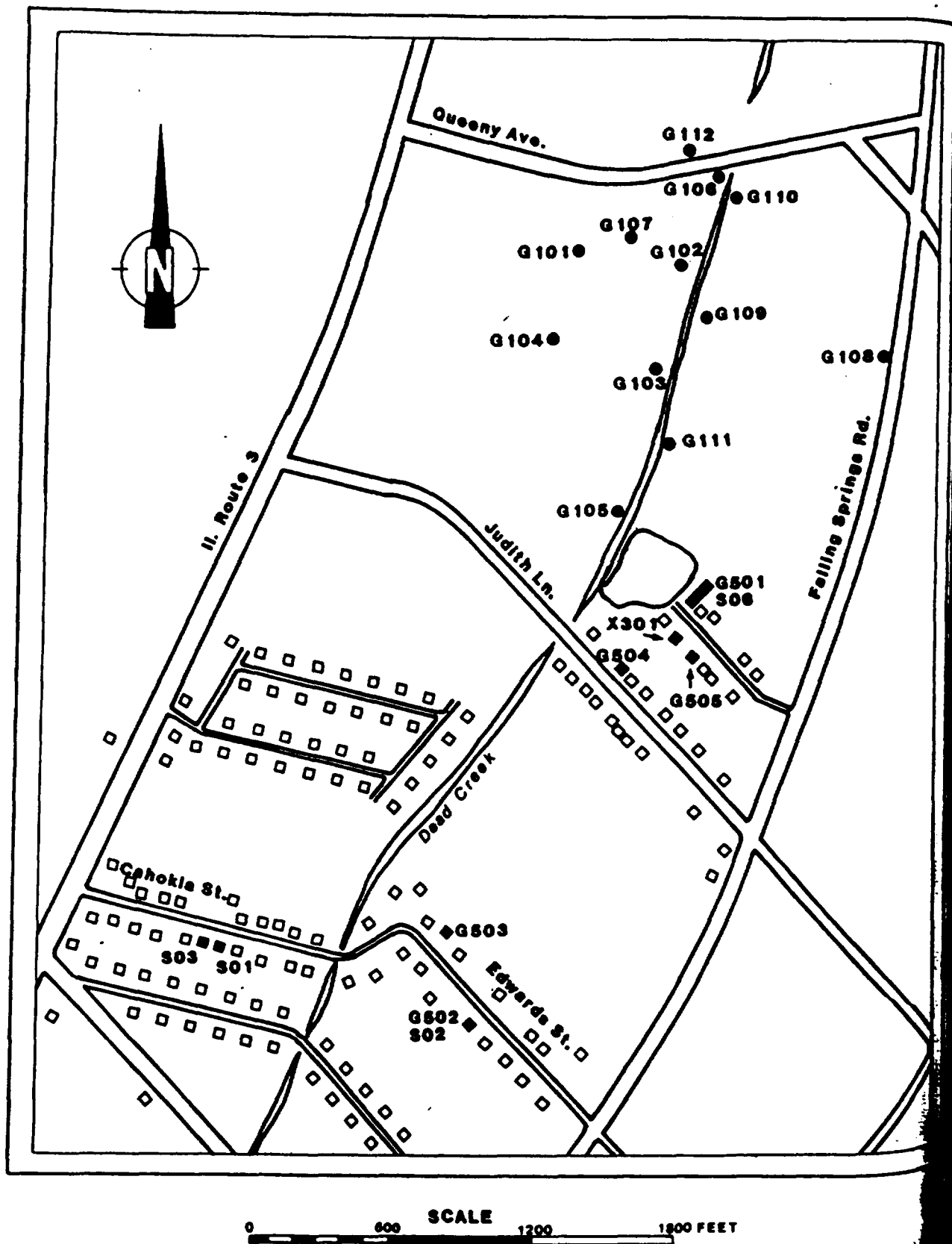


FIGURE B-2  
LOCATIONS OF IEPA MONITORING WELLS AND RESIDENTIAL  
WELLS SAMPLED IN THE VICINITY OF DEAD CREEK



SAUGET Analytical Data  
Area 1- Groundwater Monitoring Survey

GROUNDWATER SAMPLES  
Organics (µg/L)  
Collected by IEPA

Sample Number	S01	S02	S03	S04	S05	S06	R09	Maximum
Date Collected	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	Concentration
Organics							Blank	
bis (2ethylhexyl)phthalate	64	62			19	**		64
di-n-butylphthalate	**	**	**	**		**		ND
diethylphthalate	**	**	**	**			**	ND
3,4-benzofluoranthene*	**							ND
Benzo(k)fluoranthene*	**							ND
Methylene Chloride	16	16	2300	3100	980	2000	19	3100
di-n-octylphthalate		X	X					ND
1,2-dichlorobenzene				**				ND
1,4-dichlorobenzene				**				ND
butyl benzyl phthalate				**			**	ND
Chlorobenzene				**	**			ND
heptachlor				0.11 ***	0.14 ***			0.14 ***
beta-BHC				0.18 ***	0.3 ***	4.04 ***		4.04 ***
gamma-BHC				0.16 ***	0.25 ***			0.25 ***
aldrin				0.17 ***				0.17 ***
alpha-BHC					0.18 ***	0.25 ***		0.25 ***
4,4-DDE						0.11 ***		0.11 ***
heptachlor epoxide						1.46 ***		1.46 ***
delta-BHC						0.95 ***		0.95 ***

µg/L - Micrograms per liter.

ND - Not detected.

\* Coelute

\*\* Less than 10 mg/l

\*\*\* Not confirmed by GC/MS

X Results unacceptable due to bad spike recovery of blind sample.

**SAUGET Analytical Data**  
**Area 1- Groundwater Monitoring Survey**

**GROUNDWATER SAMPLES**

Metals (µg/L)  
 Collected by IEPA

	Sample Number	S01	S02	S03	S04	S05	S06	R09	Maximum
	Date Collected	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	Detected
Total Metals								Blank	
Total Aluminum		<200	410	390	<200	940	1200	<200	1200
Arsenic		11	<10	<10	29	<10	<10	<10	29
Barium		<100	<100	<100	<100	<100	<100	<100	ND
Boron		10500	11000	8000	1800	140	110	<100	11000
Cadmium		4.2	14	31	5.3	<1	2.8	<1	31
Chromium		12	<10	<10	<10	<10	<10	<10	12
Cobalt		62	70	82	95	<50	<50	<50	95
Copper		65	<50	<50	<50	<50	<50	<50	65
Iron		65000	31000	38000	28000	530	250	<50	65000
Lead		570	97	74	9	11	10	<5	570
Manganese		1800	1100	1500	5100	460	80	<15	5100
Mercury*		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	ND
Nickel		<40	<40	<40	140	<40	<40	<40	140
Selenium		<2	<2	<2	<2	<2	<2	<2	ND
Silver		<10	<10	<10	<10	<10	<10	<10	ND
Tin		<20	<20	<20	<20	<20	<20	<20	ND
Vanadium		<200	<200	<200	<200	<200	<200	<200	ND
Zinc		107000	109000	40000	1900	260	350	<10	109000
Antimony		<20	<20	<20	<20	<20	<20	<20	ND
Thallium		<10	<10	<10	<10	<10	<10	<10	ND
Beryllium		<5	<5	<5	<5	<5	<5	<5	ND
Mercury**		0.1	0.4	0.4	0.2	0.1	<0.1	<0.1	0.4

µg/L - Micrograms per liter.

ND - Not detected.

\* Cal Analytical Labs Test

\*\* CRL Lab Test

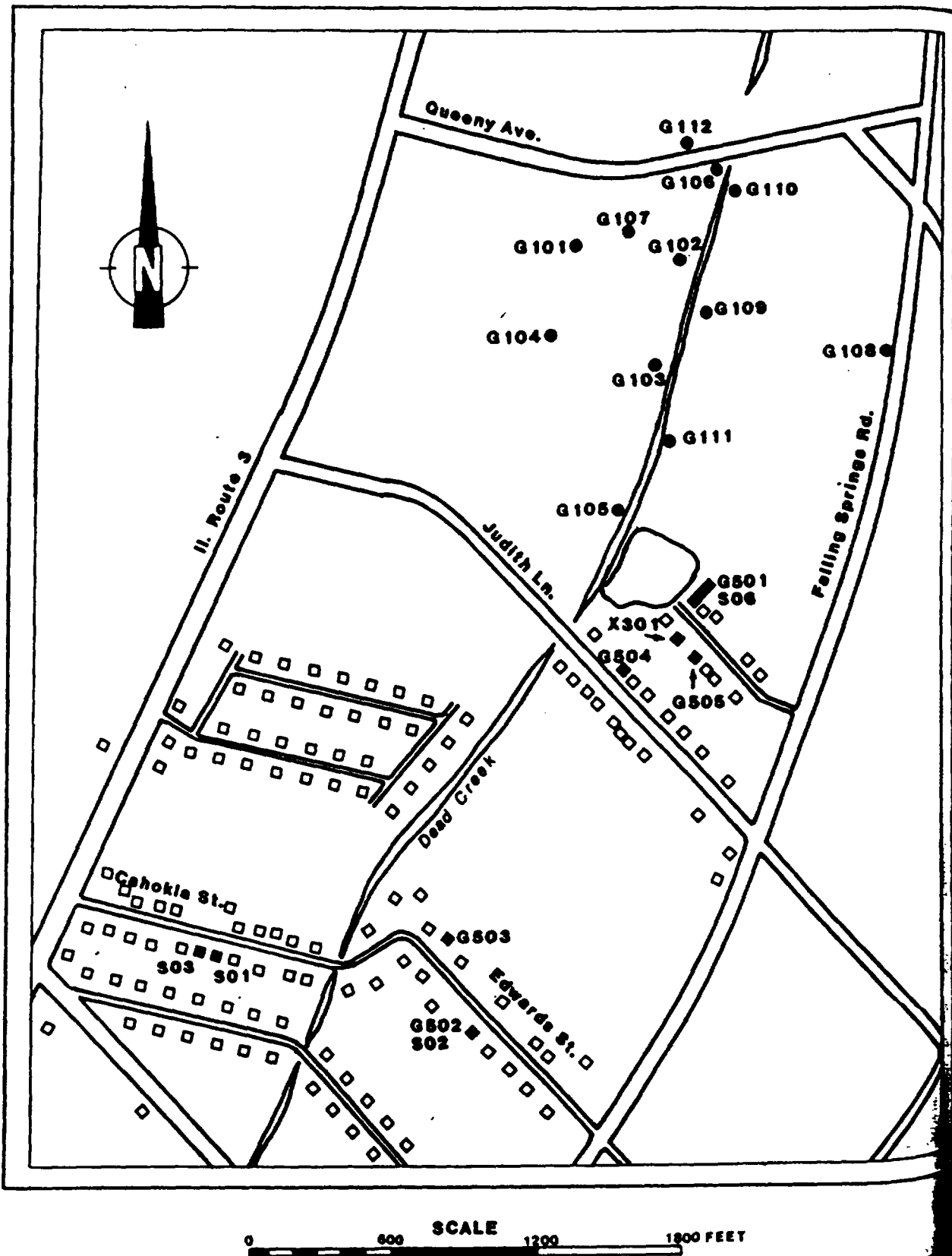


FIGURE B-2  
LOCATIONS OF IEPA MONITORING WELLS AND RESIDENTIAL  
WELLS SAMPLED IN THE VICINITY OF DEAD CREEK

**SAUGET Analytical Data**  
**Site Area 1 Private Wells**

**GROUND WATER SAMPLES**  
**Volatile Organic Compounds (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

recycled paper

Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
VOC					
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	4 BJ	12 B	ND	37 B	37 B
Acetone	18 B	10 B	8 BJ	8 BJ	18 B
Carbon Disulfide	ND	3 J	ND	ND	3 J
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	2 J	ND	ND	2 J
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	1 BJ	1 BJ	ND	1 BJ	1 BJ
Chlorobenzene	ND	ND	ND	ND	ND
Ethylbenzene	4 J	ND	ND	ND	4 J
Styrene	ND	2 J	ND	2 J	2 J
Total Xylenes	ND	ND	ND	ND	ND

ecology and environment

µg/L - Micrograms per liter

B - Compound also detected in blank

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site Area 1 Private Wells**

**GROUND WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
<b>BNAs</b>					
Phenol	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site Area 1 Private Wells**

**GROUND WATER SAMPLES**  
**Base Neutrals/Acids (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

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Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
<b>BNAs</b>					
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
Di-n-octyl phthalate	2 J	ND	2 J	4 J	4 J
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

J - Estimated value

ND - Not detected

**SAUGET Analytical Data**  
**Site Area 1 Private Wells**

**GROUND WATER SAMPLES**  
**Pesticides/PCBs (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

	Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
	Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
	Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
<b>Pesticides/PCBs</b>						
<b>Alpha-BHC</b>		ND	ND	ND	ND	ND
<b>Beta-BHC</b>		ND	ND	ND	ND	ND
<b>Delta-BHC</b>		ND	ND	ND	ND	ND
<b>Gamma-BHC (Lindane)</b>		ND	ND	ND	ND	ND
<b>Heptachlor</b>		ND	ND	ND	ND	ND
<b>Aldrin</b>		ND	ND	ND	ND	ND
<b>Heptachlor Epoxide</b>		ND	ND	ND	ND	ND
<b>Endosulfan I</b>		ND	ND	ND	ND	ND
<b>Dieldrin</b>		ND	ND	ND	ND	ND
<b>4,4'-DDE</b>		ND	ND	ND	ND	ND
<b>Endrin</b>		ND	ND	ND	ND	ND
<b>Endosulfan II</b>		ND	ND	ND	ND	ND
<b>4,4'-DDD</b>		ND	ND	ND	ND	ND
<b>Endosulfan sulfate</b>		ND	ND	ND	ND	ND
<b>4,4'-DDT</b>		ND	ND	ND	ND	ND
<b>Methoxychlor</b>		ND	ND	ND	ND	ND
<b>Endrin Ketone</b>		ND	ND	ND	ND	ND
<b>Chlordane</b>		ND	ND	ND	ND	ND
<b>Toxaphene</b>		ND	ND	ND	ND	ND
<b>Aroclor-1016</b>		ND	ND	ND	ND	ND
<b>Aroclor-1221</b>		ND	ND	ND	ND	ND
<b>Aroclor-1232</b>		ND	ND	ND	ND	ND
<b>Aroclor-1242</b>		ND	ND	ND	ND	ND
<b>Aroclor-1248</b>		ND	ND	ND	ND	ND
<b>Aroclor-1254</b>		ND	ND	ND	ND	ND
<b>Aroclor-1260</b>		ND	ND	ND	ND	ND

µg/L - Micrograms per liter  
 ND - Not detected

**SAUGET Analytical Data**  
**Site Area 1 Private Wells**

**GROUND WATER SAMPLES**  
**Total Metals (µg/L)**  
**Collected by Ecology & Environment, Inc. (3/87)**

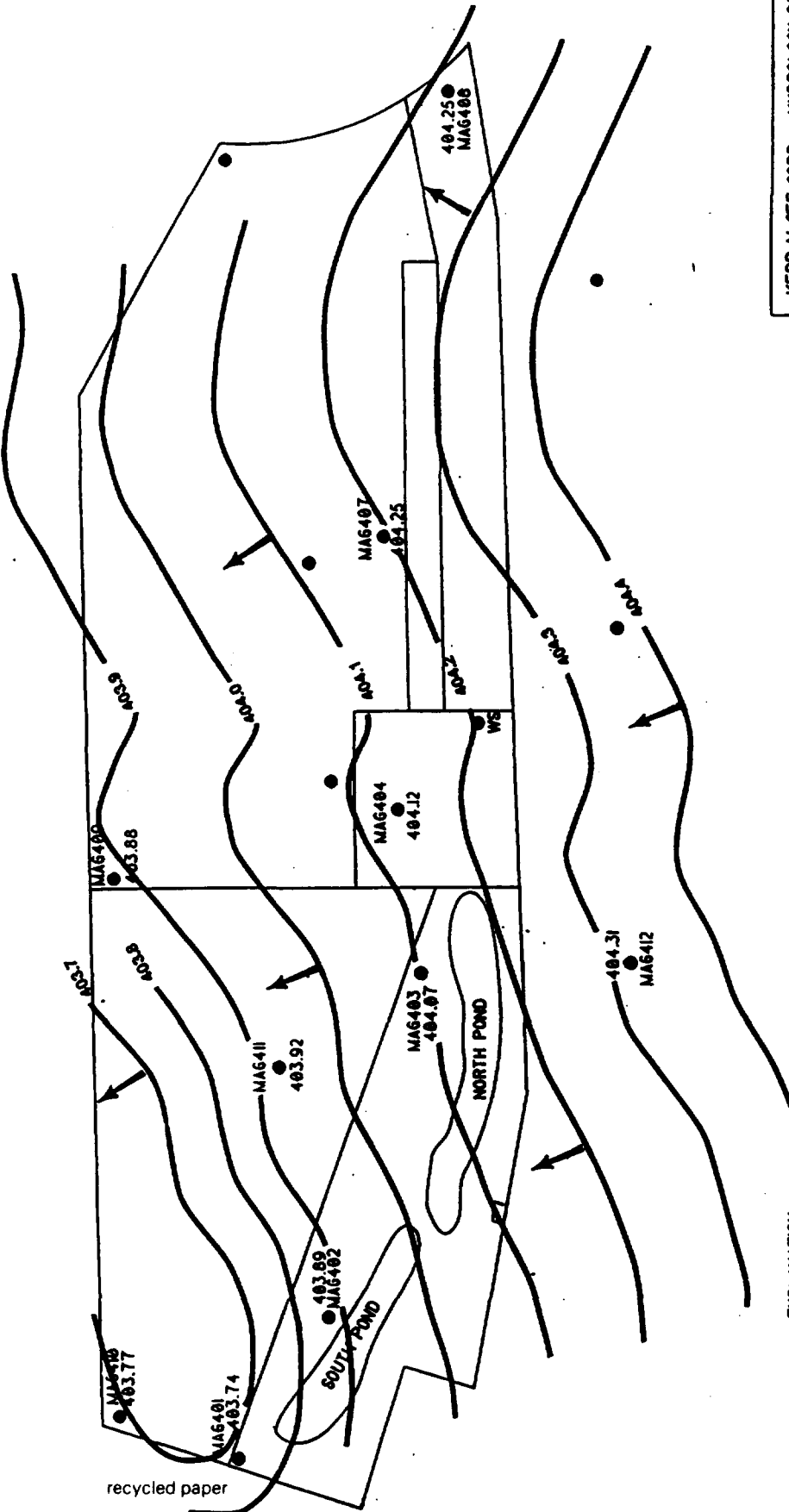
Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
<b>Total Metals</b>					
<b>Aluminum</b>	ND	ND	ND	ND	ND
<b>Antimony</b>	ND	ND	ND	ND	ND
<b>Arsenic</b>	ND	ND	11	26	26
<b>Barium</b>	[73]	[89]	292	[117]	117
<b>Beryllium</b>	ND	ND	ND	ND	ND
<b>Boron</b>	ND	ND	ND	ND	ND
<b>Cadmium</b>	ND	ND	ND	ND	ND
<b>Chromium</b>	ND	ND	ND	ND	ND
<b>Cobalt</b>	ND	ND	ND	ND	ND
<b>Copper</b>	ND	[10]	115	ND	115
<b>Iron</b>	2990	4600	21600	10600	21600
<b>Lead</b>	ND	12 R	18 R	ND	18 R
<b>Manganese</b>	1060	665	1660	257	1660
<b>Mercury</b>	ND	ND	0.2	ND	0.2
<b>Nickel</b>	ND	ND	ND	ND	ND
<b>Selenium</b>	ND	ND	ND	ND	ND
<b>Silver</b>	ND	ND	ND	ND	ND
<b>Thallium</b>	ND	ND	ND	ND	ND
<b>Tin</b>	ND	ND	ND	ND	ND
<b>Vanadium</b>	ND	ND	ND	ND	ND
<b>Zinc</b>	4140 R	2000 R	377 R	1350 R	4140 R
<b>Cyanide</b>	ND	ND	ND	ND	ND

µg/L - Micrograms per liter

ND - Not detected

R - Spike sample recovery not within control limits.





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# EXPLANATION

MAG  
● MONITORING WELL LOCATION & IDENTIFICATIONS

403- WATER LEVEL ELEVATION CONTOURS

CONTOUR INTERVAL = .10

WATER LEVELS TAKEN JULY 25, 1995



KERR-MCGEE CORP. - HYDROLOGY DEPT.

POTENTIOMETRIC SURFACE  
DEEP MONITORING WELLS  
JULY 25, 1995

KERR-MCGEE CHEMICAL CORP.  
SAUGET, IL

MAP DATE: 9/95

DRAWN BY: K. BULLER

**SAUGET Analytical Data**  
**Sauget Sites Area 1**

**GROUNDWATER SAMPLES**  
**Total Metals (µg/L)**  
**Collected by IEPA**

Sample Number	G201	G202	G203	G204	G205	Maximum
Date Collected	03/27/91	03/27/91	03/27/91	03/28/91	03/27/91	Detected
Temperature (°F)	60.8	60.8	59.8	60.3	55.9	
Conductivity (µmhos)	1003	1326	1027	1230	960	
pH	7.59	7.38	7.24	7.56	7.49	
<b>Total Metals</b>						
Aluminum	ND	ND	ND	ND	96 B	96 B
Antimony	ND	54 B	55 B	ND	ND	55
Arsenic	ND	10.9	ND	3.9 B	9.2 B	10.9
Barium	ND	273	ND	502	ND	502
Beryllium	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND
Calcium	141000	202000	164000	145000	11900	202000
Chromium	ND	ND	ND	ND	ND	ND
Cobalt	6.2	ND	ND	ND	ND	6.2
Copper	ND	ND	ND	ND	75	75
Iron	977	21700	400	166	724	21700
Lead	6.7	ND	ND	3.3	11	11
Magnesium	32100	41600	25900	37600	ND	41600
Manganese	712	1590	2750	39	100	2750
Mercury	ND	ND	ND	ND	ND	ND
Nickel	ND	ND	ND	ND	ND	ND
Potassium	4340 B	7110	6330	5420	ND	7110
Selenium	1.3 B	ND	1.3 B	2.7 B	0.8 B	2.7 B
Silver	ND	ND	ND	ND	ND	ND
Sodium	20900	24400	6240	14600	ND	24400
Thallium	2.4 B	4.7 B	3.1 B	ND	ND	4.7 B
Vanadium	ND	ND	ND	ND	ND	ND
Zinc	550	ND	58	38	658	658
Sulfate	95000	148000	93000	48800	13000	148000

µg/L - Micrograms per liter.

B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.

ND - Not detected

**SAUGET Analytical Data**  
**Sauget Sites Area 1**

**GROUNDWATER SAMPLES (µg/L)**

Collected by IEPA

Sample Number	G201	G202	G203	G204	G205	Maximum
Date Collected	3/27/91	3/27/91	3/27/91	3/28/91	3/27/91	Detected
<b>VOLATILES</b>						
Methylene Chloride	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND
# of TICs	(0)	(0)	(0)	(0)	(0)	0
<b>SEMIVOLATILES</b>						
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND
# of TICs	(5)	(5)	(5)	(5)	(20)	20
<b>PESTICIDES/PCB's</b>						
beta-BHC	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	0.07 J	0.07 J
alpha-Chlorodane	ND	ND	ND	ND	3.76	3.76
gamma-Chlorodane	ND	ND	ND	ND	5.02	5.02
Aroclor-1254	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

J - Estimated value.

ND - Not detected.

TICs - Tentatively identified compounds